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STATE OF CALIF.
DEPARTMENT OF WATER RESOURCES
DIVISION OF RESOURCES PLANNING

FUTURE POPULATION, ECONOMIC AND RECREATION DEVELOPMENT OF CALIFORNIA'S NORTHEASTERN COUNTIES

APPENDIX A OF BULLETIN NO. 58 NORTHEASTERN COUNTIES INVESTIGATION

GOODWIN J. KNIGHT
Governor



HARVEY O. BANKS
Director of Water Resources

JULY, 1957

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF RESOURCES PLANNING

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INTRODUCTORY STATEMENT

The Northeastern Counties Investigation was conducted by the State of California, Department of Water Resources, under legislative authorization which provided for the determination of the ultimate water needs of 15 northeastern California counties, predicated upon full development of all natural resources. To assist in the analysis of the expanding water needs of these counties that will inevitably result from population increases and the growth of industry and commerce, including recreation, the Department employed the firm of Harold F. Wise and Associates, consultants in planning and urban economics.

This appendix report, prepared by the firm of Harold F. Wise and Associates, sets forth the data and conclusions relating to ultimate population, economic development that might result from full use of the natural resources, and recreation potential which could be expected under ultimate conditions. These data are the basis for the Department's estimates of water requirements for urban, domestic, industrial, and recreation uses, as presented in Department of Water Resources Bulletin No. 58, "Northeastern Counties Investigation".

NORTHEASTERN COUNTIES INVESTIGATION

- I. Probable Ultimate Population and Economic Development.
- II. Potential Ultimate Recreation Development.

Report prepared by
Harold F. Wise & Associates,
Consultants in
Planning and Urban Economics

for the

State of California
Department of Water Resources

March 1957

Harold F. Wise & Associates
707 Forum Building
Sacramento 14, California

March 15, 1957

telephone GIlbert 2-4877

Mr. William L. Berry
Chief, Division of Water Resources Planning
California State Department of Water Resources
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Sacramento 5, California

Dear Mr. Berry:

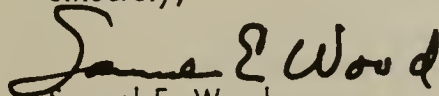
There is submitted a report in two parts, on probable ultimate population, economic and recreation development in California's northeastern counties, predicated upon full development of their natural resources.

The report is intended to assist the Department in its determinations of ultimate water requirements in the northeastern counties.

The first part of the report deals with population and the probable future pattern of economic development. It is estimated that domestic water requirements will be those of a population of approximately 1,750,000, of whom about 70 percent will live in urban areas. No unusual water requirements are now anticipated for industrial purposes, apart from processing of pulp and paper products.

The second part of the report deals with potential development of recreation resources, including recreation use of reservoir areas. The study indicates that the area can support a very great expansion of recreation facilities and recreation use. It is anticipated that the bulk of the population of the northeastern county area will ultimately be supported by activities related to development and use of its recreation resources, and its desirability as a place to live.

Sincerely,


Samuel E. Wood
Resident Partner.

NOTE

The consultant's report has been prepared in two parts, one dealing with projections and forecasts of probable ultimate population, employment and general economic development in the northeastern counties; the other with the potential development and use of the recreation resources of the area, including proposed water resource development projects.

Both reports have as their primary purpose to assist the Department of Water Resources to estimate probable ultimate water requirements of the northeastern counties, predicated upon full development of their natural resources.

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| | |
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| <u>Glenn County:</u> | Noble Richardson, Secretary, Chamber of Commerce |
| <u>Lake County:</u> | L. D. Kirkpatrick, Chairman, Board of Supervisors |
| <u>Lassen County:</u> | Nadene Wemple, County Clerk Gerald Packwood, Chairman, Board of Supervisors Lester Coffin, Supervisor, District 2 |
| <u>Modoc County:</u> | Millicent Dubois, County Clerk Irma Laird, County Historian |
| <u>Plumas County:</u> | Max Forbes, Manager, Chamber of Commerce E. B. Bond, County Agricultural Commissioner J. C. Cloman, Supervisor, District 4 |
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| <u>Sutter County:</u> | Eber F. Beilby, Chairman, Board of Supervisors |
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PART ONE

PROBABLE ULTIMATE POPULATION AND ECONOMIC
DEVELOPMENT IN CALIFORNIA'S NORTHEASTERN
COUNTIES, PREDICATED UPON FULL DEVELOPMENT
OF NATURAL RESOURCES

Prepared
in cooperation with
Van Beuren Stanbery, Economic Consultant

NORTHEASTERN COUNTIES INVESTIGATION

Projections of Population and Economic Development

I. SCOPE AND PURPOSE OF REPORT

To assist in determining ultimate water needs of the counties of Butte, Colusa, Glenn, Lake, Lassen, Modoc, Plumas, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Yolo and Yuba, studies and projections have been made of present and probable ultimate population and economic development in those counties. These studies are intended to be of direct use in estimating consumptive water use in urban, suburban, rural-farm, and rural-nonfarm areas, according to methods described in State Water Resources Board Bulletin No. 2 (June 1955).

Additional demand for water for personal consumption will be created by development of potential recreation areas. The classification and measurement of such areas are discussed in a companion report which follows this monograph.

II. SUMMARY OF FINDINGS

1. California's northeastern counties are still in the primary stages of economic development, with high dependence on agriculture and the manufacture of lumber and wood products from local natural resources. Their populations are relatively small and predominantly rural, with no large urban concentrations.

The patterns of population and economic development of the northeastern county area in 1950 were strikingly similar to those of the state of California in the year 1870.

2. The northeastern counties have great resources of agricultural, forest and recreational lands, water and hydro-electric power, that can be more intensively developed and used. The area has a large potential for future growth through increased irrigation of its agricultural lands, expanded utilization of its forest products, and development of its recreation attractions. Full development of the agricultural, forest, recreational, water and power resources of the northeastern counties is a basic requirement for achievement of the ultimate economic and population growth projected in this study.

3. In addition, technological advances and the huge expected increases of population in the United States and California will eventually lead to a concomitant development and growth in the northeastern counties. The natural advantages of the northeastern counties for outdoor recreation, for human habitation, and for new types of industry and services will inevitably draw thousands of part-time and full-time residents from other parts of the nation and state. The greater part of the future population increase in the area as a whole is expected to be supported by activities other than the production and marketing of commodities derived from local natural resources.

At the same time, agriculture and the utilization of forest products will continue to provide substantially larger proportions of total employment for the northeastern county area than for the state as a whole.

4. At the time of ultimate development of the natural resources of the area (years 2020-2050), it is estimated that:

Population will have increased to

375,000,000 in the United States;

45,000,000 in California; and

1,750,000 in the northeastern county area.

Irrigated lands in the northeastern county area will have increased to 3,803,900 acres, about three times the acreage in 1954 and three and one-half times that in 1949.

Number of farms and farm population in the area will be approximately twice those in 1950. Agricultural employment (as of April 1) will also be about double that of 1950.

Employment in lumber and wood products industries (as of April 1) in the area will be about twice that of 1950. In addition, a substantial number of persons will be employed in pulp and paper products industries of which the area had none in 1950.

Total manufacturing employment (April 1) in the area will approximate 639,000 compared with 116,000 in April 1950.

Mining (excluding petroleum extraction) and forestry will continue to provide a somewhat higher proportion of total employment in the area than will be true in the rest of the state, but the volume of such employment will be relatively small.

Other employment (construction, distribution and service activities) will account for a majority of the jobs in the area. The proportion of total employment accounted for by this category will rise from 61 percent in 1950 to an estimated 74 percent in 2020-2050.

Anticipated development of recreation areas will provide substantial employment in trade and service activities and will induce settlement of many permanent non-farm residents therein.

Urban residents will comprise the bulk of the area's population. Urban population will rise to about 69 percent of the area's population, compared with 35 percent in 1950.

Rural farm population and rural non-farm population will both increase in numbers, but will decline in percent of total population.

Gross population densities will approximate 48 persons per square mile, a little more than the state average in 1940.

The geographical locations and patterns of ultimate growth in the area will generally follow those of present development. The largest concentrations of urban population and industrial and commercial activities are expected in those counties which now have the largest urban populations: Butte, Shasta, Yolo and Yuba, and also Sutter. Although some counties will grow more rapidly than others, the ranking of the counties in total population and total employment at time of ultimate development will be approximately the same as now.

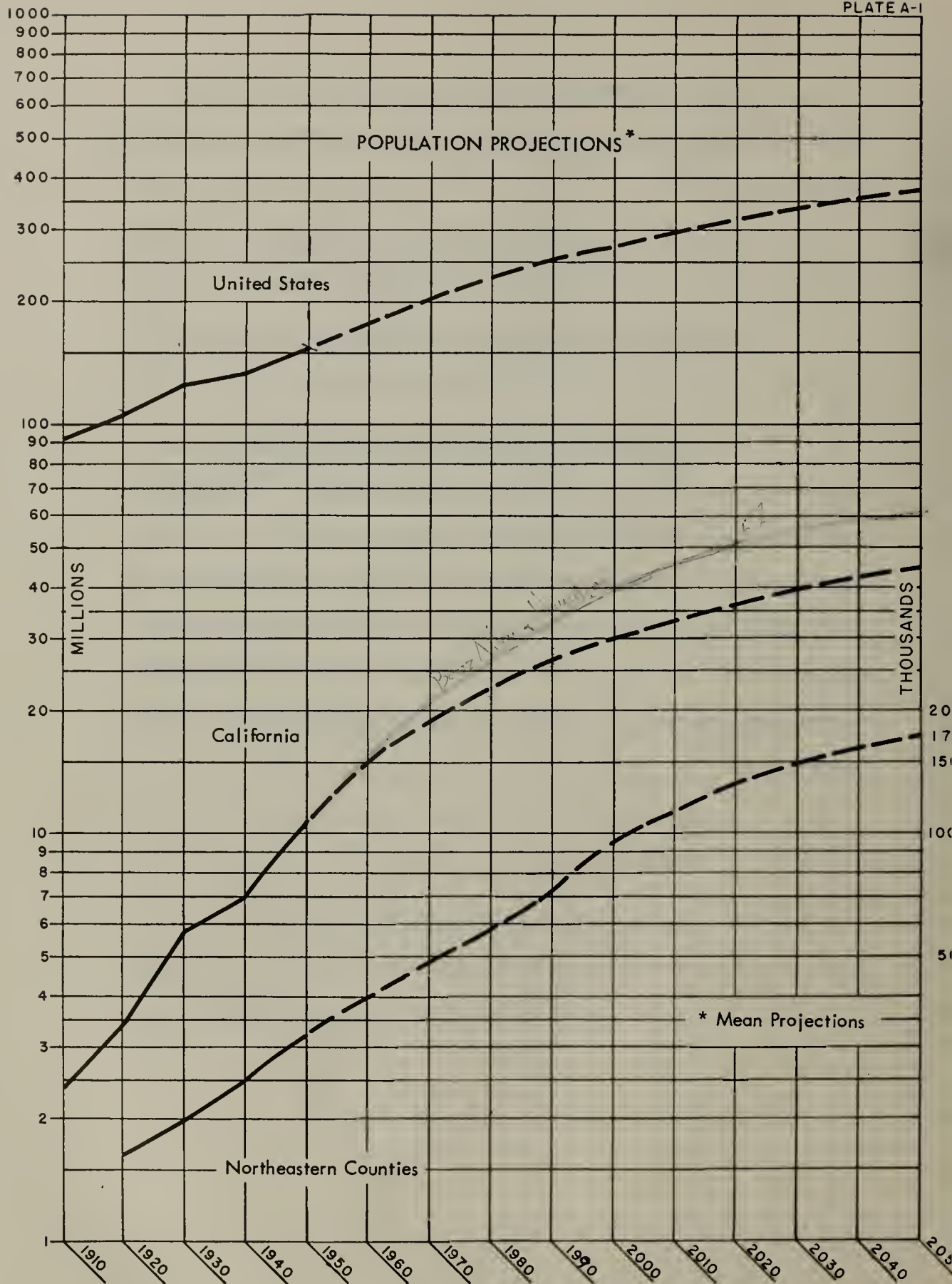


Table 1

POPULATION OF 15 NORTHEASTERN CALIFORNIA COUNTIES 1920-1956
AND PROBABLE ULTIMATE POPULATION 2020-2050

| | Jan. 1 1920 | Apr. 1 1930 | Apr. 1 1940 | Apr. 1 1950 | July 1 1956 | Probable Ultimate 2020-2050 |
|---------------------|----------------|----------------|----------------|----------------|----------------|-----------------------------------|
| Butte | 30,030 | 34,093 | 42,840 | 64,930 | 69,300 | 284,000 |
| Colusa | 9,290 | 10,258 | 9,788 | 11,651 | 11,400 | 68,000 |
| Glenn | 11,853 | 10,935 | 12,195 | 15,448 | 16,300 | 85,000 |
| Lake | 5,402 | 7,166 | 8,069 | 11,481 | 11,000 | 65,000 |
| Lassen | 8,507 | 12,589 | 14,479 | 18,474 | 16,900 | 67,500 |
| Modoc | 5,425 | 8,038 | 8,713 | 9,678 | 9,500 | 51,100 |
| Plumas | 5,681 | 7,913 | 11,548 | 13,519 | 11,800 | 44,700 |
| Shasta | 13,361 | 13,927 | 28,800 | 36,413 | 45,000 | 195,000 |
| Sierra | 1,783 | 2,422 | 3,025 | 2,410 | 2,200 | 16,000 |
| Siskiyou | 18,545 | 25,480 | 28,598 | 30,733 | 32,200 | 127,200 |
| Sutter | 10,115 | 14,618 | 18,680 | 26,239 | 28,500 | 121,800 |
| Tehama | 12,882 | 13,866 | 14,316 | 19,276 | 20,300 | 105,100 |
| Trinity | 2,551 | 2,809 | 3,970 | 5,087 | 6,500 | 22,000 |
| Yolo | 17,105 | 23,644 | 27,243 | 40,640 | 53,100 | 390,000 |
| Yuba | 10,375 | 11,331 | 17,034 | 24,420 | 28,100 | 105,000 |
| 15-county total | 162,905 | 199,089 | 249,298 | 330,399 | 362,100 | 1,747,400 |
| Percent of state | 4.75 | 3.51 | 3.61 | 3.12 | 2.66 | 3.9 |
| State total | 3,426,861 | 5,677,251 | 6,907,387 | 10,586,223 | 13,600,000 | 45,000,000 |

III. ANALYSIS OF TRENDS AND PATTERNS OF ECONOMIC DEVELOPMENT AND POPULATION GROWTH IN THE NORTHEASTERN COUNTY AREA

In terms of economic geography, the northeastern counties fall into two, or possibly three, economic areas. The counties of Butte, Colusa, Glenn, Sutter, Tehama, Yolo and Yuba constitute State Economic Area No. 4, as defined by the Bureau of the Census. These are predominantly valley counties. The counties of Lassen, Modoc, Plumas, Shasta, Sierra, Siskiyou, and Trinity are part of State Economic Area No. 9. These are predominantly mountain counties. Lake County lies in State Economic Area No. 1 comprising north-coastal counties which are predominantly mountainous.

State economic areas are groups of counties having similar agricultural, demographic, climatic, physiographic, and cultural characteristics.

Present Development

Taken as a whole, the northeastern county area has 23.0 percent of the state's land area, but in 1956 had only 2.7 percent of its civilian population (Table 1). Average gross density of population was ten persons per square mile compared with the state average of 85 persons per square mile.

The 15-county area today has a little more than one percent of the state's urban population, and about 11 percent of its farm population (Table 2).

Table 2

POPULATION AND EMPLOYMENT IN 15 NORTHEASTERN COUNTIES
AS PERCENTAGE OF CALIFORNIA STATE TOTALS

All data as of April 1

| | 1930 | 1940 | 1950 | Probable Ultimate |
|--|-------|-------|-------|----------------------|
| Total population | 3.51 | 3.61 | 3.12 | 3.9 |
| Urban population | 0.89 | 0.90 | 1.34 | 3.0 |
| Rural non-farm population | 10.29 | 10.03 | 10.48 | 10.7 |
| Rural farm population | 11.35 | 10.70 | 10.73 | 12.0 |
| Total employment | 3.58 | 3.41 | 2.98 | 3.8 |
| Farm employment | 9.99 | 8.92 | 8.87 | 11.5 |
| Wood products employment (excl. pulp and paper) | 15.20 | 22.52 | 19.58 | 20.0 |
| Mining employment - total | 7.28 | 10.61 | 3.55 | 2.7 |
| - excl. oil and gas | 19.57 | 22.67 | | |

Source (1930-1950 data): U. S. Bureau of the Census

Table 3

RELATION BETWEEN URBAN POPULATION AND EMPLOYMENT IN
AGRICULTURE AND LUMBER AND WOOD PRODUCTS INDUSTRIES

| | United States | | | California | | |
|------|--------------------------------|--|--------------------------|--------------------------------|--|--------------------------|
| | Percent Urban Population | Percent Em- ployment in Two Industries | Sum of Percentages | Percent Urban Population | Percent Em- ployment in Two Industries | Sum of Percentages |
| 1870 | 25.7 | 55.9 | 81.6 | 37.2 | 33.9 | 71.1 |
| 1880 | 28.2 | 52.9 | 81.1 | 42.9 | 33.4 | 76.3 |
| 1890 | 35.1 | 44.5 | 79.6 | 48.6 | 32.5 | 81.1 |
| 1900 | 39.7 | 40.7 | 80.4 | 52.3 | 28.1 | 80.4 |
| 1910 | 45.7 | 34.6 | 80.3 | 61.8 | 21.1 | 82.9 |
| 1920 | 51.2 | 29.6 | 80.8 | 67.9 | 20.0 | 87.9 |
| 1930 | 56.2 | 27.3 | 83.5 | 73.3 | 15.5 | 88.8 |
| 1940 | 56.5 | 20.7 | 77.2 | 71.0 | 12.3 | 83.3 |
| 1950 | 64.0 | 14.3 | 78.3 | 80.7 | 9.1 | 89.8 |

Source: U. S. Bureau of the Census; Margaret S. Gordon, Employment Expansion and Population Growth, The California Experience 1900-1950, University of California Press 1954

The economy of the 15-county area has been built historically on agriculture, lumbering, and mining. Agriculture is a major activity in all the counties, and is the foundation of the economies of the valley counties. Lumber production is the leading industry in the mountain counties, excluding Lake.

Approximately two-thirds of the population of the northeastern county area is now supported directly and indirectly by agriculture and the timber industry. Likewise, two-thirds of the area's population today is rural.

The area presently accounts for about 11 percent of annual state agricultural production (by value), and 34 percent of California's timber products output (measured in board feet of sawlogs).

Mining, once the leading industry in the mountain counties, has dropped to a relatively minor role in recent years. In 1954, value of mineral production in the 15 counties was only 0.9 percent of the state total. In minerals other than oil and gas, the 15-county share was somewhat larger.

Probable Future Economic Development

The 15-county area has about one-fifth of the state's farm land, and more than half of its commercial forest land. These resources will continue to support a substantial but declining proportion of the area's population.

Known mineral reserves indicate a potential for long-term sustained economic activity, but the proportion of population supported by mining is expected to remain relatively small.

In the years to come, it is expected that "foot-loose" industries, not dependent on agricultural, timber or mineral resources in the counties, will play an increasing part in their economies.

Trade and service industries are expected to increase greatly in proportion to other economic activities. Economic activities based on development and use of recreation resources are expected to become a major economic support of the 15-county area, and in some counties will rank as the "No. 1 industry". These activities will be predominantly in services to tourists and to persons residing in the area because of its scenic, climatic and other natural attractions.

Development of the northeastern county area has been held back to a considerable degree by inadequate transportation. The central valley portion of the area is traversed by major rail and highway routes; but there are relatively few rail and highway routes "off the main line". In the mountain counties, most roads are elementary and some areas cannot be reached by roads. Nevertheless the area has the framework for an improved transportation system built around such transfer points as Redding, Red Bluff, Chico, Marysville, and Davis.

Growth Patterns

This forecast of development trends in the northeastern counties has been guided by studies in the field of economic geography which show that as a large rural region, such as the northeastern county area, becomes more highly developed and populated, its pattern of economic and population growth follows certain definite trends. Among these are:

1. The proportion of total employment in the region provided by extractive activities (agriculture, forestry, and mining) and in manufacture of products from local natural resources (e.g. lumbering) steadily declines.
2. Employment and population in urban communities of the region grow more rapidly than employment and population in rural sections, with consequent increases in the proportion of urban population in the region.*

* The term "urban population" in this report refers to the classification used by the Bureau of the Census. Before 1950, urban population referred to persons living in incorporated places of 2,500 or more. In 1950 the definition was broadened to include unincorporated places of 2,500 or more. The classification also includes the densely settled "urban fringe", including both incorporated and unincorporated places, around cities of 50,000 or more.

The Department of Water Resources employs a definition of urban lands which takes in much of what the Bureau of the Census classifies as "rural-non farm." In the 1940 and earlier Censuses, persons living in the suburbs of cities constituted a large proportion of the rural-non farm population. Under the new definition, a considerable number of such persons are transferred to the urban population. The rural-non farm population still includes villages and hamlets of less than 2,500 inhabitants, and some of the fringe areas surrounding smaller cities, which come under the Department of Water Resources classification of "urban" or "suburban" lands.

A remarkably constant relationship has been noted between the decline of the percent of total employment provided by agriculture and lumbering and the rise in the percentage of urban population. This is shown by the trends of these percentages in the United States and the State of California from 1870 to 1950 presented in Table 3.

In view of the large expected rise of population, economic activity and income levels in the United States and California from 1950 to the time of probable ultimate development of the natural resources of the 15-county area (years 2020-2050) and the pressure and potentials for economic development and population growth in the northeastern counties, it can be expected that the proportion of total employment in the area provided by agriculture and lumbering in the period 2020-2050 will range between 10 and 15 percent. Consequently it is estimated that the urban population of the area will then comprise about 70 percent of the total population.

The projections of employment and population in the 15-county area in the period 2020-2050, stated below, have been derived from detailed studies of potential development of natural resources in the individual counties and from established trends of economic development and population growth in the nation, state and area.

Probable Ultimate Population and Employment

At ultimate development, in the period 2020-2050, the northeastern counties will have a total population of approximately 1,750,000. This is about 5.3 times the 1950 population of the area, and 4.8 times the estimated 1956 population.

It is estimated that about 36.6 percent of this population, on the average, will be employed, indicating a total employment of approximately 639,000. Construction, distribution, trade and service activities will provide nearly three-fourths of this employment; in 1950 they already accounted for 60 percent of employment in the northeastern county area.

Extractive industries, which accounted for nearly one-fourth of employment as of April 1, 1950, will ultimately account for slightly less than ten percent. Manufacturing will increase its share from 15.8 percent in April 1950 to around 17 percent.

The area's dependence on agriculture and lumbering will be greatly reduced. In 1950 these industries accounted for 33.5 percent of direct employment in the 15-county area as of April 1. Ultimately it is anticipated that this proportion will decline to about 12.8 percent (14.2 percent if pulp and paper products are included). This decline in relative importance will occur despite an anticipated increase in the absolute numbers of persons employed both in agriculture and in the lumber and wood products industries.

Employment in agriculture is expected to more than double - from the 25,416 reported by the Census Bureau for April 1, 1950, to approximately 55,000 as of April 1 at ultimate development. This will be made possible primarily by an increase in irrigated acreage from 1,085,000 acres in 1950 to an estimated 3,803,900 at ultimate development. Total acreage in farms is expected to remain about the same as in 1954, though slightly higher than in 1950.

Employment in lumber and wood products industries, excluding pulp, paper and paper products, is expected to double - from 13,543 reported by the 1950 Census, to an estimated 27,000. In addition, an estimated 8,900 jobs will be provided in pulp, paper and paperboard manufacture, which is just now beginning in the area. This projected increase in employment in the timber industry assumes a sustained yield cutting program, maximum recovery of tree products in the forest, and full utilization of these products at the mills.

Mining is not presently an important source of employment in the northeastern county area. Some resumption of mining activity, on a sustained basis, is anticipated in the employment projections of this report.

In keeping with the decline in importance of extractive industries, the proportion of population living in rural areas is expected to decline from 65 percent as reported in the 1950 census, to about 31 percent. Conversely, the proportion of population residing in urban areas will just about double - from 35 percent in 1950 to about 69 percent.

The relative position of each county in the area with respect to population and population density will remain about the same it is now. The geographical pattern of ultimate population and economic development in the northeastern county area appears to be generally established by the present relative degrees of development among counties.

Butte, Yolo, Shasta, Siskiyou and Sutter counties, in that order, presently rank highest in population and account for about 63 percent of the population of the area. At ultimate development, Yolo will be first in population but otherwise the positions are expected to be unchanged; the five counties together will account for an estimated 64 percent of total population in the northeastern county area.

Population Density

The ratio of population density in the 15 counties to that in the state will be about the same as in 1940 - approximately one-sixth the state average. In 1940, the average gross population density of California was 44.1 persons per square mile. Density was 6.9 persons per square mile in the 15-county area. Thus, the state density was 6.3 times the area density in 1940.

With ultimate total population of 1,750,000 in the 15-county area, the average gross population density would be approximately 48.5 persons per square mile. Average gross population density of California at ultimate development, with a population of 45,000,000 will be 288.5 persons per square mile. This is approximately six times the density expected in the 15-county area.

Average gross population density is presently highest in Yolo, Sutter, Yuba, and Butte counties, in that order. At ultimate development these counties will continue to have substantially greater gross population density than the other northeastern counties (Table 4).

Gross population density is not to be confused with concentration of urban population. However, as indicated on an earlier page, these counties, plus Shasta County, are also those which are expected to have the largest urban populations at ultimate development, reflecting the generally close relationship between economic development, urban growth and total population.

With suitable controls over development, gross population density in urban areas might average about eight persons per acre (5,120 persons per square mile). This assumes an average of 8.5 persons per urban acre in Yolo, Sutter, Shasta and Siskiyou counties; 8.0 per acre in Butte and Yuba counties; and 7.0 per acre in all other counties. If these densities seem low, it may be noted that a density standard of 150 persons per square mile - 0.23 persons per acre - is used by the Bureau of the Census as one of the criteria of metropolitan character.

With the urban population estimated in this report - 1,203,500 - an average density of 8.0 persons per acre would permit the northeastern counties to meet their needs for urban land, including urban industrial sites, with slightly more than 150,000 acres.

POPULATION DENSITY IN 15 NORTHEASTERN COUNTIES

| County | <u>1956</u> (Population per square mile) | <u>Ultimate (2020-2050)</u> |
|----------|---|-----------------------------|
| Yolo | 51.4 | 377 |
| Sutter | 47.0 | 201 |
| Yuba | 44.0 | 165 |
| Butte | 41.7 | 171 |
| Glenn | 12.4 | 65 |
| Shasta | 11.8 | 51 |
| Colusa | 9.9 | 59 |
| Lake | 8.8 | 52 |
| Tehama | 6.8 | 35 |
| Siskiyou | 5.1 | 20 |
| Plumas | 4.6 | 17 |
| Lassen | 3.7 | 15 |
| Modoc | 2.3 | 12 |
| Sierra | 2.3 | 17 |
| Trinity | <u>2.0</u> | <u>7</u> |
| Average | 10.0 | 48 |

Comparison with state and national development1. Proportion of Employment Provided by Agriculture

The proportion of total employment in agriculture has been declining since 1920 and will continue to decline, in the nation, the state and each of the 15 counties.

Because California is now a highly urbanized state, the proportion of all California employment provided by agriculture in April 1950 was only 7.3 percent (Table 12). Hence, the extent of further decline in this percentage (and in the percentage of farm population) will be relatively small in the state as a whole.

From study of the potential ultimate development of irrigated land and accompanying shifts in crop patterns and the projected growth of the total population, it is estimated that about 2.8 percent of total employment in California at time of ultimate development of its land resources (years 2020-2050) will be provided by agriculture. Although both agricultural employment and rural farm population in California at time of ultimate development, are estimated to be about 2-1/4 times the April 1950 figures, the rural farm population will decline from 5.4 percent of state population in 1950 to about 2.4 percent at ultimate development (see Table 5).

Each of the 15 counties is less developed economically and its population is now more rural and less urban than is the case for the state as a whole. For the 15-county area as a whole the percentage of employment provided by agriculture April 1, 1950 (21.9 percent) was three times the state figure of 7.3 percent (Tables 6 and 38). The area's proportion of rural farm population in April 1950 (18.5 percent) was 3.6 times the state figure of 5.4 percent (Table 5 and Table 54).

Hence, the proportion of total employment provided by agriculture (and the percent of rural farm population) will decline to a greater extent in these counties than in the state as they become more highly developed and more densely populated. Conversely, their percentages of urban population and of employment in non-agricultural activities (which were much below the state percentages in April 1950) will rise to a greater degree than the state percentages and will be closer to the state percentages at ultimate development than they were in 1950.

The decline in agriculture's relative importance will, of course, be greatest in the counties in which urban population and non-agricultural employment are expected to show the largest increases from 1950 to ultimate development, such as Butte, Shasta, Yolo and Yuba counties.

The analysis of agricultural development presented here implies continued net out-migration of population from farm areas in both the state and the 15-county area. In other words, if no future net out-migration of farm residents should occur between now and 2050, the expected natural increase of the farm population in the state and also in the 15-county area as a whole would produce larger ultimate farm populations than those estimated herein.

Table 5

POPULATION DATA AND PROJECTIONS

State of California

| | Jan. 1 1920 | Apr. 1 1930 | Apr. 1 1940 | Apr. 1 1950 | Ultimate |
|---------------------------|----------------|----------------|----------------|----------------|------------|
| Total popu- lation | 3,426,861 | 5,677,251 | 6,907,387 | 10,586,223 | 45,000,000 |
| Urban* | 2,331,729 | 4,160,596 | 4,902,265 | 8,539,420 | 40,050,000 |
| Rural farm | 493,513 | 579,350 | 635,389 | 568,231 | 1,070,000 |
| Rural non-farm | 601,619 | 937,305 | 1,369,733 | 1,478,572 | 3,880,000 |
| Percent distri- bution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Urban* | 68.0 | 73.3 | 71.0 | 80.7 | 89.0 |
| Rural farm | 14.4 | 10.2 | 9.2 | 5.4 | 2.4 |
| Rural non-farm | 17.6 | 16.5 | 19.8 | 13.9 | 8.6 |

* 1950 urban population includes unincorporated places having 2,500 inhabitants or more. In previous years, only incorporated places of 2,500 inhabitants or more were considered "urban".

Population data and projections for the 15 counties are presented in Tables 22-37.

2. Proportion of Employment Provided by Manufacturing

In the United States as a whole the proportion of total employment provided by manufacturing rose from 19.4 percent in 1900 to 25.9 percent in 1950 (Table 11). It should be noted, however, that the rise in this percentage was influenced by the large decline in the percentage of agricultural employment. In view of expected continued increases in automation and in average productivity per man-hour of labor in manufacturing, it is estimated that the proportion of total employment provided by manufacturing in the nation in the period 2020-2050 will be about the same as in 1950 and will probably range between 24 and 26 percent.

Because manufacturing has been relatively less developed in California than in the nation as a whole, the proportion of total state employment provided by manufacturing was below the national proportion in each census year 1870-1950 (Table 11 and Table 12). The rapid growth of manufacturing industries in California since 1940, however, is tending to raise the state's percentage of manufacturing employment closer to the national percentage.

In the period 2020-2050, it is expected that manufacturing in California will have nearly the same degree of development relative to other economic activities as in the nation, and that the proportion of employment then provided by manufacturing will be about 22.5 percent, or about the same as estimated for April 1956.

Table 6

EMPLOYMENT DATA AND PROJECTIONS
State of California
(Employment as of April 1)

| Industry Group | 1940 | | 1950 | | Ultimate | |
|--|-----------|-------|-----------|-------|------------|-------|
| | No. | % | No. | % | No. | % |
| Total | 2,475,581 | 100.0 | 3,902,278 | 100.0 | 16,965,000 | 100.0 |
| Extractive | 319,380 | 12.9 | 328,427 | 8.4 | 576,800 | 3.4 |
| Agriculture | 265,871 | 10.7 | 286,642 | 7.3 | 480,000 | 2.8 |
| Forestry and fisheries | 7,617 | 0.3 | 11,477 | 0.3 | 12,000 | 0.1 |
| Mining | 45,892 | 1.9 | 30,308 | 0.8 | 84,800 | 0.5 |
| Manufacturing | 415,721 | 16.8 | 763,680 | 19.6 | 3,817,100 | 22.5 |
| Lumber and wood products* | 40,195 | 1.6 | 69,167 | 1.8 | 135,000 | 0.8 |
| Other manu- facturing | 375,526 | 15.2 | 694,513 | 17.8 | 3,682,100 | 21.7 |
| All other | 1,740,480 | 70.3 | 2,810,171 | 72.0 | 12,571,100 | 74.1 |
| Sum of percentages, agriculture plus lumber and wood products | | 12.3 | | 9.1 | | 3.6 |

* As defined in Standard Industrial Classification Groups 24 and 25. Pulp, paper and allied products (S.I.C. Group 26) are included in "other manufacturing" according to Census Bureau practice. Employment in pulp, paper and allied products at ultimate development is estimated at 18,000.

Employment data and projections for the 15 counties are presented in Tables 38-53.

Because of its relatively small development of manufacturing industries (except for lumber and wood products manufacture in the mountain counties), its high proportion of rural population and large dependence on agriculture, the proportion of total employment provided by manufacturing in the 15-county area as a whole has been well below the state and national percentages. In April 1950 manufacturing in the northeast counties provided only 15.8 percent of total employment there and accounted for only 2.4 percent of all manufacturing employment in the state. The lumber and wood products industries provided more than 70 percent of all April 1950 manufacturing employment in the 15 counties, and most of this was in the mountain counties.

As California's population and economy expand, population and manufacturing industries also will expand in the 15-county area, and the pattern of economic and industrial development of the area should become more like that of the state and nation. The area has a number of strategic economic transfer points for land, water and air transport and centers of potential industrial development, particularly in Shasta, Tehama, Butte, Yuba and Yolo counties.

If the population of California approaches or exceeds the mean projection of 26,750 000 in the year 1990 shown in Table 8, it can reasonably be expected that the pressures for further economic and population growth, plus the large natural resources, potential economic advantages and attractions of

these areas for human living, will induce a relatively large development of manufacturing and other economic activities in the northeastern county area during the years 1990-2050. Manufacturing is expected to account then for about 17 percent of total employment.

3. Proportion of Employment Provided by Agriculture and Lumbering

As noted before, approximately two-thirds of the population of the 15-county area today is supported, directly and indirectly, by agriculture and the timber industry. Likewise, two-thirds of the population today is rural. This stage of development is comparable to that of the state in 1870 (Table 3).

(This analysis assumes conservatively that for every person employed in agriculture and lumbering there is at least one person employed in distribution and service activities related to the handling of farm and timber products and the provision of food, clothing, shelter and services to the population engaged in producing these commodities. This is a multiplier effect of 2:1. Generally, in the state and national economy, the employment in distribution and services generated by a given volume of employment in basic commodity producing industries is seldom less than 1.5 times the latter, or a multiplier effect of 2.5:1).

By 1950 the economic development of the State of California had progressed to the point where only about one-sixth (17.4 percent) of its 10,586,223 population was economically dependent on agriculture and the manufacture of lumber and wood products. The other five-sixths were supported by other sources of employment and income. Eighty percent of the 1950 state population was classed as urban.

By the time of ultimate development (years 2020-2050) it is estimated that the state will have a population of 45,000,000 of which only about one-fourteenth (7.2 percent) will be dependent (either directly or indirectly) on agriculture and the manufacture of lumber and wood products.

For the northeastern county area as a whole, however, the estimates of employment and population at time of ultimate development (years 2020-2050) show that about one-fourth of the area's 1,750,000 population will still be economically dependent on agriculture and the manufacture of lumber and wood products and that about 30 percent of the population will still be classed as rural.

In effect, the pattern of economic development and urbanization of the population of the 15-county area as a whole at time of ultimate development of its natural resources is estimated to be somewhat similar to that of the State of California in 1940 when 25 percent of state population was dependent directly or indirectly on agriculture and the manufacture of lumber and wood products, and 29 percent of state population was still rural.

(In the 15-county area the estimated percent of ultimate total employment in agriculture and wood products manufacture combined is 12.8 percent, while the corresponding 1940 percent for California was 12.3).

In the 60 years 1880 to 1940, employment in the resource-based industries of agriculture and the manufacture of lumber and wood products in California increased by 143 percent -- from an estimated 126,000 in 1880 to 306,000 in 1940. The proportion of total California employment provided by these two industry groups, however, declined from 33.4 percent in 1880 to 12.3 percent in 1940 (Table 3).

During the same period the total population of California increased by 699 percent - from 864,694 in 1880 to 6,907,387 in 1940. Thus, the rate of total population growth was 4.9 times the rate of increase of employment in the two resource-based industries.

In April 1940 the proportion of total civilian employment in the 15-county area provided by these two industry groups was 38.6 percent. By April 1950 it had declined to 33.5 percent, practically the same proportion as that for the State in 1880.

Also during the ten years April 1940 - April 1950, employment in the two industry groups in the area increased 17.4 percent while the total population of the area increased 32.5 percent, or 1.87 times as fast.

The sum of the estimates of employment in agriculture and in the manufacture of lumber and wood products (excluding pulp and paper) in the individual counties of the 15-county area at time of ultimate development equals 82,190, an increase of 111 percent over the April 1950 employment in these industries.

The estimated total population of the individual counties of the 15-county area at time of ultimate development is 1,750,000. This is an increase of 430 percent over the 1950 population. It also represents 3.9 times the estimated rate of the increase (from 1950 to ultimate development) of employment in agriculture and the manufacture of lumber and wood products in the area.

A rate of population increase equal to 3.9 times the rate of increase of employment in the two resource-based industries may appear high, but examination shows that:

- (a) It is less than the population growth rate of 4.9 times the rate of employment increase in these two industries in California during the 60 years 1880 - 1940 cited above.
- (b) It is below the rate of 4.45 times the rate of employment increase in the same two industries estimated for the growth of California population from 1950 to the same date of ultimate employment.*

| | | | | |
|---|---|---------------------------------|---|-------------|
| * | State population increase: | $\frac{45,000,000}{10,586,000}$ | = | 325 percent |
| | State employment increase in agriculture and lumber and wood products | $\frac{615,000}{355,800}$ | = | 73 percent |
| | | $\frac{325}{73}$ | = | 4.45 times |

- (c) Continuation of the relative growth rates of population and of employment in the two industries for the period 1940-1950 would alone produce a population increase of 200 percent in the area from 1950 to ultimate development.

4. Relation of 15-county Population Growth to that of U.S.

Population in the 15 counties has in recent decades grown relatively faster than population in the United States as a whole. If the trend of relative growth shown in the period 1920-1950 is projected to year 2050, it yields population figures for the 15 counties which closely support the 1,750,000 estimate made by quite independent methods, which are explained in the following section of the report.

On the low side, the trend for 1920-1950 may be used. (This is low because of the relatively small population increase in the 15 counties during the 1920's). Over the three decades, 15-county population increased from 0.154 percent of U.S. Population to 0.219 percent, an average increase per decade of 0.0217 percentage points.

If this average increase is projected over 10 decades to year 2050, the 15-county population would be 0.436 percent of U. S. population. The latter is estimated at 375,000,000 (Table 7). The resulting estimate for the 15 counties is 1,635,000.

On the high side, the faster growth trend of 1930-1950 shows an average increase of 15-county population, as a percent of U. S. population, of 0.0285 percentage points per decade. Projecting this increase over 10 decades to year 2050 indicates that 15-county population would then be 0.504 percent of U. S. population. This indicates a 15-county population of 1,890,000.

The average of the low and high estimates is 1,762,500.

Extent of in-migration

A population of 1,750,000 in the 15-county area in year 2050 implies an average net in-migration of approximately 5,000 per year during the years 1950-2050. This would be about the same as annual net in-migration into the area during 1940-1950, which is indicated below:

| | |
|---|----------------|
| Total population increase, 1940-1950: | <u>81,100</u> |
| Total natural population increase, 1940-1950 (60,866 births minus 30,940 deaths)* | approx. 30,000 |
| Total net in-migration, 1940-1950: | 51,100 |
| Total net in-migration per year, 1940-1950: | 5,100 |

* State Department of Public Health

IV. METHOD OF ESTIMATING ULTIMATE EMPLOYMENT AND POPULATION IN NORTHEASTERN COUNTIES

A. Summary

Basically, the estimates of employment and population in the north-east counties at ultimate development were developed from detailed study of present and potential ultimate development of agricultural lands and water, mineral, forest, and recreation resources of each county (and of the northeastern county area as a whole) similar to the analysis in State Water Resources Board Bulletin No. 2 and the State Division of Water Resources Report on Upper Feather River Service Area. However, statistical techniques used in translating estimates of ultimate development of natural resources into estimates of population and employment differ from those in the foregoing reports.

Trends and patterns of economic development and population growth of the 15-county area as a whole were analyzed and projected to the period of ultimate development (years 2020-2050) based on potential development of the natural resources of the area, the projected growth of the state and national populations, and expected changes in employment patterns of the state and the 15-county area in light of established long term trends.

Estimates of major land uses, employment and population were then prepared for each county on the basis of its physical and economic characteristics, potential development of its natural resources, and past and expected patterns and trends of its growth and development in relation to those of the 15-county area and the state as a whole.

The aggregates of the estimates for the individual counties are consistent with the magnitudes of population and employment projected separately for the entire area.

Framework of Estimates

The estimates for the northeast counties were developed within a framework of population projections for the United States (375,000,000) and California (45,000,000) in the year 2050. These projections were developed as described in Section C of this chapter, entitled "Projections of the Populations of the United States and California to the year 2050".

The county projections are also based on certain assumptions about the probable relation between population and employment expected to prevail in the state and in the 15 northeastern counties at ultimate development. The determination of this relationship (i.e., the ratio of employed population to total population) is an essential step in estimating population growth based on development of local resources. The data and assumptions used in computing this ratio for the state and 15 counties are discussed in Section D entitled "Estimation of Ratio of Total Employment to Total Population at Time of Ultimate Development".

Estimates of the distribution of employment of county residents among various industries at ultimate development were guided by long-term trends of changes in employment patterns in the United States and California described in Section E entitled "Distribution of Employment, United States and California, 1870 - 1950, with Projections".

Estimates of ultimate agricultural development and ultimate April 1 employment in agriculture and the timber industry in each of the 15 counties were developed from estimates of potential ultimate irrigable acreage and sustained timber yields in each county, provided by the Department of Water Resources and the U. S. Forest Service respectively (See Sections F and G).

All estimates and projections as to ultimate development presented in this report are predicated on the assumptions concerning future technologic, economic and demographic conditions and trends described under "Assumptions about Living Conditions in 2050" (Section B).

County Factors Considered in Preparing Estimates

The County estimates at ultimate development also are based on study and appraisal of the following specific factors and conditions for each county:

1. Physical Factors

a. Land Use

Present and estimated ultimate acreages of land in each of the following categories:

Total gross area

Water surface area

Barren and wasteland

Forest land

Agricultural land - total and irrigated

Institutional and public use

Urban areas

b. Physiography

Approximate area of:

Flat or relatively level land

Rolling or foothill land suitable for human habitation and scattered rural population

Steep or mountainous terrain with little or no permanent population

Recreation areas suitable for permanent settlement

Number and locations of present and potential urban communities, approximate acreage available at each location for future urban development (if such acreage would impose limitations on size of urban population), including consideration of:

Railroads and highways serving each such area; especially junction points for rail and highway transport.

Proximity or distance of such communities from other urban communities and from large recreation areas.

Favorable or adverse climatic conditions in different sections of county, and other physical conditions for living in various parts of county.

2. Economic and Demographic Factors

General nature and pattern of economic and population growth expected to be realized at ultimate development of county resources based on appraisal of:

Extent and inter-relationships of the various types of ultimate land use and of the established pattern of land ownership.

The geographical location of the county and its present and probable ultimate function and economic position in the 15-county area and the state as a whole.

The direction, rate, and nature of trends in economic development and population growth in the county, the 15-county area and the state.

The relative desirability and attractions of the county and various areas within it for human living and for particular types of economic and recreational activity at ultimate development, including its industrial location factors and advantages.

Locations of principal industrial, distribution and service centers (present and probable ultimate), including consideration of ultimate gross habitable area tributary to such economic foci and trading centers. This was useful in estimating ultimate amount and percent of distribution and service employment ('Other Employment' in the tables) based on size of population served from trading centers in county (or contrariwise from other centers outside the county).

Probable degrees of concentration and dispersion of lumber and wood products industries in the county. (The greater the expected concentration of such industries in one or two localities, the greater the probable development of supplier and related industries and of other types of manufacturing).

Present and probable ultimate percentage distribution and relative densities of rural farm, urban and rural non-farm populations of the county derived from analysis of the previously described physical factors and the trends of these percentages and densities in the 15-county area and the state.

Estimates of the numbers and percentages of county residents employed as of April 1 at ultimate development in agriculture and in the manufacture of lumber and wood products were then established from detailed studies of ultimate development of agricultural and forest resources and the previously determined pattern and trends of economic growth.

B. Assumptions about Living Conditions in 2050

The projections of population and employment presented in this report have been developed in a framework of assumptions about conditions of human living in the United States and California in the year 2050 (selected to represent probable "ultimate" or full development of the northeastern counties' resources). These assumptions are:

1. Disparities in income levels among the regions and areas of the United States will have been largely eliminated by 2050 and median incomes of the population will be approximately the same among the regions and states.
2. Median family income of the populations of the U. S. and of California will be more than double the current median (in equivalent purchasing power of 1956 dollars).
3. New sources and applications of energy will be developed and widely used along with new and unpredictable types of materials, products, distribution methods and services, including transportation facilities and communication media.

4. Automation will have greatly reduced the amount of human effort required for production of materials and tangible goods. The average week of gainful labor at scheduled tasks will be about 24 or 25 hours (compared to about 38 hours in 1956).

5. The location of population and economic activity will be determined to a greater extent by the economic advantages of various localities, including the relative desirability and attractiveness of physical environments for human living and working, than by the local availability of natural resources and the currently used natural sources of energy.

6. Population and economic activity in the U. S. and California, therefore, will be much more widely diffused than they are in 1956. Maximum gross residential densities in cities and metropolitan areas will be substantially reduced below the current (1956) maximum densities, but average gross residential densities for the state and nation will be greatly increased.

7. Through progress in science and medicine, the average life span will be lengthened, and the proportion of the population ages 60 and over will be substantially larger than in 1950. Practically all people aged 60 years and over will have acquired life incomes permitting them to select and live in environments most attractive to them.

Applying these assumptions to the northeastern counties, it is expected that technological developments in transportation and communication will increase the accessibility of the area to all parts of the state and nation, and will make it feasible for many persons to reside in the area while carrying on their business elsewhere. These developments will also induce the establishment of many types of specialized activities not dependent on natural resources of the area.

The recreation resources of the area, together with increased leisure time for the population generally, will draw to it many outside visitors, and a substantial number of persons who will live in the area solely because of its facilities for "good living" and leisure-time activities. Hence, the northeastern county area will contain a relatively large part-time or vacation population not dependent on employment in the area. The proportion of retired people in the 15-county area also may be somewhat higher than for the state as a whole.

In view of these prospects the potential population of the area at ultimate development is much larger than the present economy and developed resources of the area would indicate.

All estimates and projections at time of ultimate development assume that no major disaster, such as a devastating war, epidemic or other catastrophe, will occur during the period of the projection.

C. Projections of the Populations of the United States and California to the Year 2050

Need for the Population Projections

The levels of population and economic development in California are influenced by and closely related to those of the nation. In turn the size of the population and the extent and nature of economic development in the 15 counties are affected by and related to the size of the state and national populations.

Hence, the first step was to determine the probable size of the populations of the United States and of California at the time of ultimate development of the natural resources of the 15 counties. For reasons presented elsewhere in this report, the year 2050 has been taken as the approximate date of such ultimate development.

Assumptions and Procedures in Projecting Populations of the United States and California to the Year 2050

The sizes of the populations of the United States and of California in the year 2050 are subject to wide variations because of the many factors that may accelerate or retard population growth. The most logical approach to the problem was judged to be (a) determination of the range within which the population can be expected to vary in the year 2050 and (b) adoption of a figure near the middle of this range.

Probable high and probable low projections of the total populations of the United States and California in the year 2050 therefore were developed as described below and shown in Tables 7 and 8.

Assumptions with respect to future economic and social trends and conditions on which the projections have been based are set forth in the preceding section of this report.

1. Projections of the Population of the United States.

High Projections

For 1960, 1965, 1970 and 1975, the high projections in Table 7 are the highest of a series of projections of the total population (including armed forces overseas) for those dates published by the Bureau of the Census in its current Population Reports, Series P-25, No. 123, October 20, 1955. The low projections in Table 7 for those dates are the lowest of the Bureau of the Census projections in the same report.

For 1990, the high projection of 270,000,000 developed in 1954 by the engineering firm of Parsons, Brinckerhoff, Hall and Macdonald in a study of population growth in the nation, California, and the San Francisco Bay Area was adopted. This 1990 high projection is 60,620,000 more than the 1970 high projection of 209,380,000 by the Bureau of the Census. It represents an average increase of 3,031,000 per year for that 20 year period, or 30,310,000 per decade.

The high projections for the census years 2000 to 2050 are straight line arithmetical projections based on an assumed average increase of 3,000,000 per year over the entire 60 year period, 1990-2050. The assumption of an average population growth of 3,000,000 per year appears conservative for a high projection of the national population for the following reasons:

- (a) It represents a gradual decline in the average crude rate of natural increase from approximately 14.9 per thousand population during the five years 1950-55 to approximately 9.8 per thousand population for the five years 1990-95 and approximately 6.7 per thousand population in the five years 2045-50. These future crude rates of natural increase and the population projections based thereon might be exceeded if age-specific fertility rates and mortality rates were maintained at about their current levels, despite the larger proportions of older people in the projected future populations.
- (b) A report published in November 1952 by the Federal Security Agency * shows a high projection of 392,289,000 for the population of the entire United States (including territorial possessions) in 2050. This projection, however, does not reflect the large population increase which has

* Illustrative United States Population Projections 1952, Robert J. Myers and E. A. Razor, Actuarial Study No. 33, Federal Security Agency, November 1952.

already occurred during 1950-56. The high projection in that report for 1975 is 200,923,000 which is about 28,000,000 less than the more recent 1975 high projection by the Bureau of the Census shown in Table 7. Moreover, the high projections by the Federal Security Agency assume a large reduction in age-specific fertility rates after 1960.

- c. The potentialities for continuous advancement in medical science, in productivity per man-hour of labor and in the general plane of living, with consequent lowering of mortality rates, make a high projection of 450,000,000 population for the United States in the year 2050 seem not excessive.

Low Projections

The low projections for 1960, 1965, 1970 and 1975 in Table 7 are the lowest of the series of projections by the Bureau of the Census in the report previously cited.

The 1980 projection of 215,000,000 was obtained by adding an assumed increase of 8,093,000 to the Census Bureau's 1975 low projection of 206,907,000. This represents an average increase, 1975-80, of 1,618,600 per year - which is less than the average increase of 2,107,400 per year for the five years 1970-75 and the 2,030,300 average annual increase for the 15 years 1960-75, shown by the Census Bureau's low projections.

The low projections for the census years 1990 to 2050 were obtained by adding gradually decreasing annual increments of population growth, based on an assumed gradual decline in age-specific fertility rates to the prewar level of 1940 and practically no change in age-specific mortality rates.

It may be argued that the low projection of 300,000,000 is too low a figure for the population of the United States in the year 2050. However, the Federal Security Agency report cited before shows a low projection of only 225,525,000 population in 2050.

As an aid in determining the population of California in 2050, the potential range for the national population in that year shown in Table 7 appears reasonable.

2. Projections of the Population of California

High and low projections showing the expected size range of the population of California in the year 2050 (Table 8) were developed by:

- (a) Extending to the year 2050 the high and low projections of the state's population published by the State Department of Finance for 1960 and 1965 and the high projection for 1990 made by the firm of Parsons, Brinckerhoff, Hall and Macdonald.
- (b) Computing the percentages of the high, low and mean population projections for the United States represented by the corresponding projections of the California population (as developed by procedure (a) above in each census year 2000 to 2050 to determine whether the trends and amounts of these future percentages were consistent and reasonable in light of past relationships of population growth in the two areas.

The high projections for the population of California in the census years 2000 to 2050 assume a gradual decrease in annual growth from 500,000 per year during 1990-2010 to 400,000 per year during 2040-2050. These average annual increases are less than the estimated average during the five years 1950-55 and also well below the 560,000 annual average for the 20 years 1970-90 shown by the Parsons, Brinckerhoff, Hall and Macdonald high projections.

If future age-specific fertility and mortality rates are approximately the same as those assumed for the high projections of the national population (which appears to be a reasonable assumption for the high projections of the California population), the high projections in Table 8 represent a gradual decline of the average annual net migration into California from about 300,000 during 1950-60 to about 40,000 during 2040-50. Consequently, the high projections in Tables 7 and 8 represent a consistent and reasonable decline in the differential between rates of population growth in the nation and in California. This is shown by the trend of the percentages of U. S. population represented by the high projections of California population for the census years 1950-2050 in Table 8.

The low projections of the population of California in the census years 2000-2050 assume a gradual decline in both the rate and amount of population increase in each decade after 1990. The low projections are based on the assumption that net migration will steadily decline

from about 125,000 per year during 1990-2000 to zero during 2040-50 and also that age-specific fertility rates will decline at approximately the same rate in California as that previously assumed for the low projections of the national population in the decades 2000-2050.

Average crude rates of natural increase during the five years 2045-50 for the low projections of the national and state populations are both approximately 3.5 per thousand population.

Conclusion

In effect, the high and low projections in Tables 7 and 8 represent reasonable upper and lower limits for the populations of the United States and California in the year 2050. Because it is impossible to predict whether the population of California in 2050 will be closer to the upper or to the lower limit of the indicated potential range, the figure adopted for this study is the mean of 45,000,000 between the high of 58,000,000 and the low of 32,000,000.

On the basis of the foregoing analysis, it is estimated that California will have a population of approximately 45,000,000 at the time of "ultimate" or full development of natural resources in the northeastern counties. It also appears possible that this population figure might be reached at any time after the year 2020.

Comparability with Other Estimates

The 45,000,000 estimate derived by the foregoing analysis is only 2,590,000 larger than the estimate of 42,410,000 for probable ultimate state population developed by a different method by the State Division of Water Resources and published in State Water Resources Board Bulletin No. 2, Volume 1, June 1955, page 220.

The projection is quite close to the 45,800,000 estimate for California population in 2050 developed by the Bureau of Reclamation, Region 2, and published in its "Guide for Forecasting Population Growth," October 1954, page 9. The Bureau estimate for U. S. population in 2050 is 381,700,000, compared with 375,000,000 in Table 7.

Also in Table 7, the estimate of 272,500,000 for United States population in year 2000 compared with an estimate of 273,000,000 for that year prepared by Stanford Research Institute in its 1954 report to Weyerhaeuser Timber Company, "America's Demand for Wood 1929-1975."

Table 7

POPULATION OF THE UNITED STATES 1900-1950
WITH ESTIMATES AND PROJECTIONS TO 2050

| Year | Population |
|----------------------------|---|
| 1900 | 75,994,575 |
| 1910 | 91,972,266 |
| 1920 | 105,710,620 |
| 1930 | 122,775,046 |
| 1940 | 131,669,275 |
| April 1, 1950 | 151,132,000 (incl. armed forces overseas) |
| July 1, 1955 ^{a/} | 165,271,000 " " " " |
| July 1, 1956 ^{a/} | 168,091,000 " " " " |

| Projections | High | Mean | Low |
|--------------------|---------------------------|-------------|-------------|
| July 1 | | | |
| 1960 ^{b/} | 179,358,000 | 177,905,000 | 176,452,000 |
| 1965 ^{b/} | 193,346,000 | 189,818,500 | 186,291,000 |
| 1970 ^{b/} | 209,380,000 | 202,875,000 | 196,370,000 |
| 1975 ^{b/} | 228,463,000 | 217,685,000 | 206,907,000 |
| 1980 | 239,000,000 | 227,000,000 | 215,000,000 |
| 1990 | 270,000,000 ^{c/} | 250,500,000 | 231,000,000 |
| 2000 | 300,000,000 | 272,500,000 | 245,000,000 |
| 2010 | 330,000,000 | 293,750,000 | 257,500,000 |
| 2020 | 360,000,000 | 314,500,000 | 269,000,000 |
| 2030 | 390,000,000 | 335,000,000 | 280,000,000 |
| 2040 | 420,000,000 | 355,000,000 | 290,000,000 |
| 2050 | 450,000,000 | 375,000,000 | 300,000,000 |

^{a/} Estimated by the Bureau of the Census, Current Population Reports, Series P-25, No. 141, August 10, 1956.

^{b/} High and low projections from Bureau of the Census, Current Population Reports, Series P-25, No. 123, October 20, 1955. Mean projections are the arithmetical means between the high and low projections and are not those of the Bureau of the Census.

^{c/} 1990 high projection by Parsons, Brinckerhoff, Hall and Macdonald.

Table 8

POPULATION OF CALIFORNIA 1900-1950
WITH ESTIMATES AND PROJECTIONS TO 2050

| Year | | Population | California Percent of United States | | |
|----------|--------------------|------------|---|--|--|
| | 1900 | 1,485,053 | 1.95 | | |
| | 1910 | 2,377,549 | 2.59 | | |
| | 1920 | 3,426,861 | 3.24 | | |
| | 1930 | 5,677,251 | 4.62 | | |
| | 1940 | 6,907,387 | 5.25 | | |
| April 1, | 1950 | 10,586,223 | 7.00 | | |
| July 1, | 1955 ^{a/} | 13,035,000 | 7.89 | | |
| July 1, | 1956 ^{a/} | 13,600,000 | 8.09 | | |

| Projections | High | Mean | Low | California Percent of U. S. | | |
|--------------------|--------------------------|------------|--------------------------|-----------------------------|-------|-------|
| | | | | High | Mean | Low |
| July 1 | | | | | | |
| 1960 ^{b/} | 15,413,000 | 15,011,000 | 14,609,000 | 8.59 | 8.44 | 8.28 |
| 1965 ^{b/} | 17,781,000 | 17,100,000 | 16,419,000 | 9.20 | 9.01 | 8.81 |
| 1970 | 20,000,000 ^{c/} | 18,800,000 | 17,600,000 | 9.55 | 9.27 | 8.96 |
| 1980 | 25,600,000 | 22,900,000 | 20,200,000 | 10.71 | 10.09 | 9.40 |
| 1990 | 31,200,000 ^{c/} | 26,750,000 | 22,300,000 ^{c/} | 11.56 | 10.68 | 9.65 |
| 2000 | 36,200,000 | 30,200,000 | 24,200,000 | 12.07 | 11.08 | 9.88 |
| 2010 | 41,000,000 | 33,500,000 | 26,000,000 | 12.42 | 11.40 | 10.10 |
| 2020 | 45,500,000 | 36,650,000 | 27,800,000 | 12.64 | 11.65 | 10.33 |
| 2030 | 49,800,000 | 39,600,000 | 29,400,000 | 12.77 | 11.82 | 10.50 |
| 2040 | 54,000,000 | 42,400,000 | 30,800,000 | 12.86 | 11.94 | 10.62 |
| 2050 | 58,000,000 | 45,000,000 | 32,000,000 | 12.89 | 12.00 | 10.67 |

^{a/} From California's Population in 1956, State Department of Finance, July 1956.

^{b/} High and low projections are from Projected Population of California by Broad Age Groups, 1956-1966, State Department of Finance, September 1955.

^{c/} High projection for 1970 and the high and low projections for 1990 are those developed by Parsons, Brinckerhoff, Hall and Macdonald for their report, Regional Rapid Transit, to the San Francisco Bay Area Rapid Transit Commission, January 1956.

D. Estimation of ratio of total employment to total population at time of ultimate development

The proportion of the population of an area that is gainfully employed on a particular date is determined by:

1. The percentage of that population which is in the working age group 14 years and older.
2. The percentage of that working age population which is in the labor force (i.e. persons actually employed or seeking work. This percentage is known as the labor force participation rate).
3. The percentage of the labor force that is gainfully employed.

The ratio of total employment to total population therefore is equal to percentage 1. multiplied by percentage 2. multiplied by percentage 3.

Assumptions Concerning Future Characteristics of County Populations.

In the past, the populations of most of the 15 northeast California counties have shown:

1. A higher sex ratio (i.e., number of males per 100 females) than for the nation and state.
2. Larger proportions of children ages 0-14 years than the averages for the nation and state.

The long-term trends of the sex ratios and age distribution in the 15 counties, however, have been to diminish their differentials in these respects from the national and state averages.

Hence by the time of ultimate development (2020-2050) it can reasonably be expected that the age distribution and sex composition of the populations of most of the 15 northeast counties will have become about the same as the age-distribution and sex composition of the national and state populations at that future date.

Some of the 15 northeast counties, for example, the counties of Lake, Plumas, Lassen, and Sierra, because of their potential attractions for retired elderly persons, may have relatively high proportions in the age group 65 and over with consequently smaller percentages of their working populations in their labor forces. The effects of these two deviations from the average for the nation, state and other northeast counties would tend to be offsetting. The larger percentage in the age group 65 years and over would increase percentage 1. but the greater proportion of retired persons would tend to reduce percentage 2. Hence, in computing the overall ratio of employment to population, it has been assumed that the age distribution and sex composition for each of the 15 counties at ultimate development will approximate the averages for the national and state populations.

Estimation of Percentage 1. at Ultimate Development

The percentages of the civilian populations of the United States, California and the 15 northeast counties in the working age group 14 years

and over in the years 2020-2050 should be larger than in April 1950 because there will then be smaller percentages in the child age groups and higher percentages in the older age groups 65 years and over. A series of population projections for the entire United States by the Federal Security Agency to 2050 shows a probable decline of 2-1/2 to 4 percentage points from 1950 to 2050 for children ages 14 and younger and a rise of 4-1/2 to 7 percentage points for the age group 65 years and over.^{1/}

On the other hand, the active working age group 20-64 years which contains most of the gainfully employed will probably decline from 57.5 percent of the total U. S. population in 1950 to 56 or 55 percent by 2050.

Again, these changes in the age distribution of the population may have offsetting effects on the ratio of total employment to total population. The decline of the proportion of the population in the most active working ages will tend to lower the ratio, while the larger proportion in the elderly ages may tend to raise it.

In view of the population projections to 2050 by the Federal Security Agency, cited above, the expected range of the age distribution of the populations of California and the 15 northeast counties in 2020-2050 is as follows:

^{1/} Illustrative United States Population Projections 1952, by Robert J. Myers and E. A. Razor, Actuarial Study No. 33, Federal Security Agency, November 1952. Population figures in this report include the populations of Alaska, Hawaii, Puerto Rico, Virgin Islands and U. S. armed forces and civilians overseas.

PROBABLE RANGE OF AGE DISTRIBUTION OF THE POPULATION
OF CALIFORNIA AND THE 15 COUNTIES IN 2020-2050 1/

| <u>Age Group</u> | <u>Probable Range</u> |
|-------------------|------------------------|
| 0 - 14 years | 23 - 25 percent |
| 15 - 19 years | 7 - 8 percent |
| 20 - 64 years | 56 - 55 percent |
| 65 years and over | <u>14 - 12 percent</u> |
| | 100 - 100 percent |

Another prospect of significance for this study is that the current downtrend of the sex ratio of the national population may be halted and begin to reverse itself between 1975 and 2000 with the result that the sex ratio will be higher in 2020 and 2050 than it was in 1950. The four series of population projections for the entire United States to 2050 published by the Federal Security Agency in 1952 each assumes that the current relative superiority of female over male mortality will decrease in the future (although absolute improvement is shown for both sexes). It is recognized that in the past the gap has been widening so that this assumption is contrary to a projection of past trends but is thought to be the most reasonable assumption. 2/

1/ Based on projected age distributions of United States population in Federal Security Agency study cited above.

2/ Quoted from Federal Security Agency study, pages 32 and 33.

Hence, it seems likely that the sex ratios of the populations of the United States, California and the 15 northeast counties will be close to unity by the years 2020-2050. In other words the number of males will then be approximately equal to the number of females.

Estimation of percentage 2. at ultimate development

The next question is: In what direction and to what extent will changes occur in percentage 2, i. e., the rate of labor force participation of the working age population? Will the anticipated higher income level and assured lifetime income of the elderly reduce their propensity to seek gainful employment, or will their improved health and increased vitality and longevity (through expected advancements in medical science) together with the expected greater opportunities for non-arduous labor and a desire of the aged to perform such remunerative service to society raise their labor force participation rate?

On this point, a recent report by the Bureau of the Census ^{1/} projects a decline in the labor force participation rate of males ages 65 and over in the national population from 44.7 percent in 1950 to 36.5 percent in

^{1/} Bureau of the Census, Current Population Reports, Labor Force, Series P-50, No. 42, December 10, 1952, Table 1 (A Projected Growth of the Labor Force in the United States under Conditions of High Employment: 1950-1975).

1975. This is a drop of 8.2 percentage points for those 25 years. The same report, however, projects a slight increase from 8.9 percent in 1950 to 9.5 percent in 1975 in the labor force participation rate for females ages 65 and over in the national population.

The same Census Bureau report also projects an increase from 57.3 percent in 1950 to 59.1 in 1975 in the labor force participation rate of the whole national population ages 14 years and over. The projected rate for males ages 14 years and over drops from 83.3 percent in 1950 to 80.6 percent in 1975, but the rate for females ages 14 years and over rises from 31.3 percent in 1950 to 37.5 percent in 1975.

A writer on California employment trends has noted:

"In the past there has been a close relationship between the working age population (assumed here for convenience to be 15-64 years) and civilian employment in California. However, the employed portion of California's population has been declining gradually with time, as it has been in the nation as a whole. In 1880, about 60 percent of California's working age population was employed; by 1950, this ratio had dropped to about 55 percent. If this trend continues, the ratio will be about 53 percent in 1970."^{1/}

^{1/} Richard C. Singleton in Growth and Changes in California's Population, by Warren S. Thompson, The Haynes Foundation, Los Angeles, 1955, page 296.

In view of the much higher level of the population, assured life incomes for most of the elderly group, and the smaller percentages of total employment in extractive activities expected during 2020-2050, it seems likely that current definitions and statistical relationships between population, labor force, and employment will have become outmoded by those dates and new concepts, definitions and relationships will have emerged. Especially it seems probable that the labor force will then be divided into two groups, one representing persons engaged in or seeking regular full time employment and the other representing those who desire and will accept only intermittent or part-time employment, devoting the rest of their time to non-remunerative activities.

But since it is necessary to estimate future employment, labor force and population on the basis of current definitions and relationships, the following assumptions appear logical and reasonable for the purposes of this study. It is therefore assumed that by 2020-2050:

1. The proportions of youths ages 14-19 in the labor forces of California and the nation will be much smaller than in 1950 because their educational period should then be materially lengthened. The minimum age for gainful employment will almost certainly be raised from 14 to 16 years and the labor force participation rates in the 15-19 year age bracket will probably not exceed 25 percent for males and 12 percent for females (see Table 9, Section A).

2. The labor force participation rates for males ages 20-64 years in California and the nation will have declined to 87-85 percent; for females ages 20-64 years it will range between 44 and 40 percent.

3. The labor force participation rate of males ages 65 years and over will have declined to 28-25 percent and the rate for females will range from 10 to 8 percent.

These assumptions then were applied to the projected range of the age distribution of the population in 2020-2050 as shown in the statistical analysis in Table 9, Section B.

In accordance with the previously described trend in sex ratios, it is also assumed that the sex ratio of the California population in 2020-2050 will be unity (i.e., equal numbers of males and females).

With these assumptions, the labor force participation rate of the population of California ages 15 years and over in 2020-2050 will range between 70.7 - 68.6 percent for males and between 34.9 - 34.6 percent for females. For males and females together the range is 52.8 - 51.6 percent (Table 9, Section A).

For the total population of California in 2020-2050 the projected range is 54.4 - 51.4 percent for males and 26.9 - 26.0 percent for females.

Table 9

COMPUTATION OF PERCENTAGES OF TOTAL POPULATION IN
THE LABOR FORCE AND EMPLOYED IN CALIFORNIA 2020-2050

A. Percent of population 14 years old and over in April 1 labor force, United States and California

| | <u>United States^{1/}</u> | | <u>... California... Range</u> | |
|--------------------------|-----------------------------------|-------------|------------------------------------|---------------------------|
| | <u>1950</u> | <u>1975</u> | <u>1950^{2/}</u> | <u>2020-2050</u> |
| <u>Males:</u> | | | | |
| 14 - 19 years | 48.9 | 43.7 | 39.0 | 25.0 - 21.0 ^{3/} |
| 20 - 64 years | 93.8 | 93.2 | 89.2 | 87.0 - 85.0 |
| 65 years and over | 44.7 | 36.5 | 32.4 | 28.0 - 25.0 |
| 14 years and over, total | 83.3 | 80.6 | 78.2 | 70.7 - 68.6 |
| <u>Females:</u> | | | | |
| 14 - 19 years | 27.4 | 26.3 | 19.7 | 12.0 - 10.0 ^{3/} |
| 20 - 64 years | 35.7 | 45.8 | 35.9 | 44.0 - 40.0 |
| 65 years and over | 8.9 | 9.5 | 7.4 | 10.0 - 8.0 |
| 14 years and over, total | 31.3 | 37.5 | 31.0 | 34.9 - 34.6 |
| Average, male and female | 57.3 | 59.1 | 54.1 | 52.8 - 51.6 |

B. Proportion of total population in April 1 labor force, California, 2020-2050

| <u>Males:</u> | | <u>High</u> | <u>Low</u> |
|---------------------------|---|-------------------------|-------------------------|
| 15 - 19 years | = | .25 x .07 = .0175 | .21 x .08 = .0168 |
| 20 - 64 years | = | .87 x .56 = .4872 | .85 x .55 = .4675 |
| 65 years and over | = | .28 x .14 = .0392 | .25 x .12 = .0300 |
| | | <u>.5439 (= 54.39%)</u> | <u>.5143 (= 51.43%)</u> |
| <u>Females:</u> | | | |
| 15 - 19 years | = | .12 x .07 = .0084 | .10 x .08 = .0080 |
| 20 - 64 years | = | .44 x .56 = .2464 | .40 x .55 = .2420 |
| 65 years and over | = | .10 x .14 = .0140 | .08 x .12 = .0096 |
| | | <u>.2688 (= 26.88%)</u> | <u>.2596 (= 25.96%)</u> |
| Average, male and female: | | 40.64 percent (high) | 38.70 percent (low) |

C. Percent of total population employed April 1, California, 2020-2050

| | | |
|--------------------------------------|-----------------------------|---------------|
| Percent in labor force | 40.64 percent | 38.70 percent |
| Percent employed | <u>.96</u> | <u>.94</u> |
| Percent of whole population employed | 39.01 | 36.38 |
| Average equals | $\frac{39.01 + 36.38}{2} =$ | 37.7 percent |

^{1/} Data from Bureau of the Census, Current Population Reports, Labor Force, Series P-50, No. 42, December 10, 1952, Table 1 (includes persons in military service).

^{2/} Data from 1950 Census of Population, Part 5, California, Table 69, page 5 - 269.

^{3/} Age group 15 - 19 years in 2020-2050.

Estimation of Percentage 3. at Ultimate Development

It is impossible of course to predict exact levels of employment and unemployment in 2020-2050. It may reasonably be assumed, however, that periods of economic recession will then be relatively short and of relatively small depth because of the advances that will doubtless be made in controlling fluctuations of economic activity in the future.

Since unemployment on April 1 (as now defined) generally averages about 4 percent in prosperous peacetime years, it seems reasonable to assume that unemployment in the nation and California in the period 2020-2050 will probably fluctuate between 4-6 percent. Hence it is assumed that from 96 to 94 percent of the labor force will be employed at the time of ultimate development.

Summary: Percentage 1 x Percentage 2 x Percentage 3

Finally, therefore, the estimated range of the ratio of total April 1 employment to total April 1 population in California in 2020-2050 is as follows:

| <u>Estimated Range of Percentages in 2020-2050</u> | <u>High</u> | <u>Low</u> |
|---|-------------|-------------------|
| Percent of total population ages 15 years and over (Percentage 1.) | 77.0 | 75.0 |
| Percent of population ages 15 years and over in the labor force (Percentage 2.) | 52.8 | 51.6 |
| Percent of the labor force employed (Percentage 3.) | <u>96.0</u> | <u>94.0</u> |
| Ratio of total employment to total population | 39.0 | 36.4(mean = 37.7) |

Employment Ratio for 15 Northeastern Counties

The ratio of total employment to total population in the 15 northeastern counties at time of ultimate development will probably be slightly below the 37.7 percent average developed above for California as a whole.

Reasons for this belief are:

1. The larger proportions of rural non-farm population and smaller proportions of urban population expected in the 15 counties than for the state as a whole.

2. The proportions of employment in extractive activities and in wood products manufacture are expected to be relatively larger in the 15 counties than the average for the state.

Labor force participation rates of the rural non-farm population in California are substantially lower for both males and females than the corresponding rates for the State's urban population. Comparative rates for April 1, 1950 are shown in the following table:

| Percent of State Population, April 1, 1950 | | Percent of Population Ages 14 Years and Over in Civilian Labor Force California, April 1, 1950 | | |
|---|------------------|--|-------|---------|
| | | Total | Males | Females |
| 80.7 | Urban | 53.3 | 75.2 | 32.6 |
| 5.4 | Rural Farm | 54.7 | 83.0 | 19.8 |
| 13.9 | Rural Non-Farm | 45.2 | 64.2 | 22.0 |
| 100.0 | Whole Population | 52.3 | 74.0 | 30.7 |

Source: U. S. Census of Population: 1950, Volume II, Part 5, Chapter B, Table 25.

Since it seems likely that the rural non-farm population of the 15 northeastern counties at the time of ultimate development will comprise a considerably larger percent of their total population than the average percent for the state population; and because the rural non-farm population tends to have a relatively low labor force participation rate, it may be expected that the labor force participation rate for the 15 counties in 2020-2050 will be slightly below that for the state as a whole at that time.

Furthermore, larger proportions of total employment in the 15 northeastern counties are in the extractive activities and in wood products manufacture than the corresponding proportions for California as a whole, and male employment in these activities is relatively high while female employment in them is relatively low. Nine of the 15 northeastern counties had slightly higher labor force participation rates for males in 1950 than the California average of 78.2 percent.^{1/} These nine counties were Colusa, Glenn, Lassen, Modoc, Plumas, Shasta, Siskiyou, Sutter and Tehama. Only one of the 15 counties (Plumas), however, equalled the national labor force participation rate of 83.3 percent for males in 1950; all the other counties had lower rates for their males of working age.

All 15 counties, however, had much lower labor force participation rates for their females of working age in 1950 than the 30.8 percent for the state and the 31.3 percent for the nation.

^{1/} 1950 Census of Population, Vol. II, Part 5, Chapter B, Tables 10 and 12.

Hence, the labor force participation rate for the whole population of working age (males and females together) in the 15 counties generally was below the corresponding state and national rates in 1950. It should be noted also that the California rates for both males and females were slightly below the corresponding national rates in 1950. Part of this difference probably was due to the higher median income level of the California population, which freed relatively more of the state's population of working age from the necessity of gainful employment.

Another clue to the probable labor force participation rates of the northeastern counties in 2020-2050 may be found by examining the rates for Lake County in 1950. These rates were only 71.3 percent for the county's male population ages 14 and over and 24.1 percent for the female population of working age. For males and females together the rate was only 48.3 percent. The unusually low rates for Lake County in 1950 appear to have been due largely to the age distribution of the county's 1950 population, especially the very high proportion (14.7 percent) of persons ages 65 and over.

The sex ratio of the population of Lake County in 1950 was approximately 106 and the age distribution of the population was:

| | |
|-------------------|---------------------|
| 0-14 years | 23.3 percent |
| 15-64 years | 62.0 percent |
| 65 years and over | <u>14.7</u> percent |
| Whole population | 100.0 |

The foregoing analysis indicates that the age distribution and labor force participation rate of the populations of the northeastern counties in 2020-2050 may approach that of Lake County in 1950. Hence, it may logically be reasoned that the labor force participation rate for the population ages 15 years and over in the 15 counties in 2020-2050 probably will not exceed 50 percent, and may be below that figure. This is below the estimated state average rate of $\frac{(52.8 + 51.6)}{2} = 52.2$ percent in 2020-2050 (data from Table 9).

Assuming an average labor force participation rate of 50 percent of the population ages 15 years and over in 2020-2050, the ratio of total employment to total population in the 15 northeastern counties would be as follows:

$$\text{Percentage 1.} - 76 \quad \frac{(77 + 75)}{2}$$

$$\text{Percentage 2.} - 50$$

$$\text{Percentage 3.} - 95 \quad \frac{(96 + 94)}{2}$$

$$\text{Total Employment} - \underline{\underline{36.1}} \text{ percent of total population}$$

Hence, in making the population projections for the northeastern counties the ratio of April 1 employment to population at time of ultimate development has been generally assumed to be 36 percent. In applying this assumption to computations for individual counties, however, the percentage

has been varied to meet local differences. For Yolo County, which is expected to have a relatively high degree of urban and industrial development, the percentage is assumed to be 37.5 percent. In a number of other counties, especially Colusa, Glenn and Sutter, where farm employment is a relatively high proportion of total employment or is relatively high in comparison with farm population, the employment to population ratio of .36 was applied only to non-farm employment instead of to total employment. Lake County is assumed to have a relatively low ratio of employment to population.

For the 15 counties as a group, this procedure results in an average ratio of estimated April 1 employment to population at ultimate development of 36.6 percent. In the case of some counties, the difference between 36 percent and the figure shown in Table 10 is due to rounding of population estimates or employment estimates or both.

Table 10

EMPLOYMENT (APRIL 1) AS PERCENT OF POPULATION
IN 15 NORTHEASTERN COUNTIES:
ESTIMATES FOR ULTIMATE DEVELOPMENT, YEARS 2020-2050

| | Population | Employment | Employment as Percent of Population |
|----------|------------|------------|---|
| Butte | 284,000 | 102,200 | 36.0 |
| Colusa | 68,000 | 26,500 | 39.0 |
| Glenn | 85,000 | 32,080 | 37.7 |
| Lake | 65,000 | 21,000 | 32.3 |
| Lassen | 67,500 | 24,930 | 36.9 |
| Modoc | 51,100 | 18,510 | 36.2 |
| Plumas | 44,700 | 16,080 | 36.0 |
| Shasta | 195,000 | 70,200 | 36.0 |
| Sierra | 16,000 | 5,750 | 35.9 |
| Siskiyou | 127,200 | 46,180 | 36.3 |
| Sutter | 121,800 | 47,180 | 38.7 |
| Tehama | 105,100 | 36,800 | 35.0 |
| Trinity | 22,000 | 7,925 | 36.0 |
| Yolo | 390,000 | 146,250 | 37.5 |
| Yuba | 105,000 | 37,750 | 36.0 |
| Total | 1,747,400 | 639,335 | 36.6 |

E. Distribution of Employment, United States and
California 1870 - 1950 with projections

Purposes and Uses of Data in Tables 11 and 12

Tables 11 and 12 were prepared to show the directions and rates of shifts in the functional distribution of employment in the United States and California, by decades, 1870 - 1950.

These tables show clearly the continuous decline in both the United States and California of the proportions of employment provided by the extractive activities and the continuous rise in the proportions employed in "Other Employment" (i. e., in construction, distribution and service activities). Similar analyses for other states show the same general trends.

The universality of these long term trends in employment patterns provides the basis for projections of the distribution of employment in the northeastern California counties and for projections of total employment therein at the stage of probable ultimate development, including full utilization of their natural resources.

Sources of Data in Tables 11 and 12

Percentage distribution of employment 1870 - 1950, was computed from data in Employment Expansion and Population Growth, The California Experience 1900-1950 by Margaret S. Gordon, University of California Press, 1954, especially Tables A-13, A-14, A-17, A-18, and A-19.

Percent of total employment in lumber and wood products manufacture was computed by multiplying percentages of total manufacturing production workers employed in lumber and wood products by the percentage of total employment engaged in manufacturing in the nearest census year (Tables A-18 and A-19 in Gordon report).

Percentage distribution in Table 12 for April 1956 was computed from data in Monthly Report on Employment and Unemployment in California, published by the State Departments of Employment and Industrial Relations.

TRENDS IN FUNCTIONAL DISTRIBUTION OF EMPLOYMENT IN UNITED STATES

| | 1870 | 1880 | 1890 | 1900 | 1910 | 1920 | 1930 | 1940 | 1950 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Total Employment | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Extraction | 54.2 | 51.6 | 43.8 | 40.7 | 34.3 | 30.2 | 24.9 | 20.9 | 14.1 |
| Agriculture | 52.3 | 49.4 | 41.2 | 37.6 | 31.1 | 27.0 | 22.1 | 18.7 | 12.2 |
| Forestry and Fishing | .4 | .5 | .7 | 0.7 | 0.6 | 0.6 | 0.5 | 0.2 | 0.2 |
| Mining | 1.5 | 1.7 | 1.9 | 2.4 | 2.6 | 2.6 | 2.3 | 2.0 | 1.7 |
| Manufacturing | 16.2 | 17.7 | 18.3 | 19.4 | 22.4 | 25.1 | 22.6 | 23.5 | 25.9 |
| Lumber and wood products | 3.6 | 3.5 | 3.3 | 3.1 | 3.5 | 2.6 | 2.4 | 2.0 | 2.1 |
| Other manufacturing | 12.6 | 14.2 | 15.0 | 16.3 | 18.9 | 22.5 | 20.2 | 21.5 | 23.8 |
| Other Employment | 29.6 | 30.7 | 37.9 | 39.9 | 43.3 | 44.7 | 52.5 | 55.6 | 60.0 |

Table 12

TRENDS IN FUNCTIONAL DISTRIBUTION OF EMPLOYMENT IN CALIFORNIA

| Industry Group | 1870 | 1880 | 1890 | 1900 | 1910 | 1920 | 1930 | 1940 | 1950 | Estimated April 1956 | (Tentative) Ultimate Development 2020-2050 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|--|
| Total Employment | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Extraction | 46.5 | 41.0 | 35.3 | 31.1 | 21.9 | 19.7 | 16.4 | 12.9 | 8.4 | 8.9 | 3.4 |
| Agriculture | 29.3 | 28.6 | 29.0 | 25.0 | 17.9 | 17.2 | 13.7 | 10.7 | 7.3 | 7.8 | 2.8 |
| Forestry and fishing | 1.7 | 2.1 | 1.7 | 1.4 | 1.2 | 0.8 | 0.6 | 0.3 | 0.3 | .3 | 0.1 |
| Mining | 15.5 | 10.3 | 4.6 | 4.7 | 2.8 | 1.7 | 2.1 | 1.9 | 0.8 | .8 | 0.5 |
| Manufacturing | 14.2 | 17.5 | 16.7 | 17.7 | 17.9 | 21.0 | 17.0 | 16.8 | 19.6 | 22.3 | 22.5 |
| Lumber and wood products | 4.6 | 4.8 | 3.5 | 3.1 | 3.2 | 2.8 | 1.8 | 1.6 | 1.8 | | 0.8 |
| Other Mfg. | 9.6 | 12.7 | 13.2 | 14.6 | 14.7 | 18.2 | 15.2 | 15.2 | 17.8 | | 21.7 |
| Other Employment | 39.3 | 41.5 | 48.0 | 51.2 | 60.2 | 59.3 | 66.6 | 70.3 | 72.0 | 68.8 | 74.1 |

F. Estimation of farm population and employment

Farms, farm population and employment

According to the projections made for this study, the number of farms in the northeastern counties at time of ultimate development will be approximately twice the present number. These farms will support roughly twice the farm population and farm employment reported in the 1950 Census of Population.

Increase in Irrigated Acreage

This expansion is predicated upon full development of irrigation through the California Water Plan. The State Department of Water Resources estimates total net irrigable acres in the northeastern counties at 3,803,900. This is 3.5 times the irrigated acreage reported by the 1950 Census of Agriculture and 3.0 times that reported by the 1954 Census of Agriculture.

Total land in farms is not expected to change much from the present acreage; land in irrigated farms will be greatly increased while land in non-irrigated farms will be greatly decreased. Average size of farm will be reduced to about half the present figure.

Expansion of irrigated acreage will take place in part through additions to the irrigated acreage of existing irrigated farms, and in part through creation of entirely new farms on land made useful for cropland or pasture by irrigation.

Reversal of trend toward larger farms

The projected increase in number of farms and in farm population and employment presumes a reversal of the present state-wide trend. In recent decades, increases in irrigated acreage have resulted largely in an increase in the average size of farms, rather than an increase in number of farms and farm population. For example, between 1930 and 1950 irrigated acreage in the state increased from 4.7 million to 6.4 million; farm population declined slightly from 620,000 to 617,000; and average size of farm increased from 224 acres to 307 acres. The increase in size of farm was almost entirely accounted for by an increase in the size of irrigated farms. Development in the northeastern counties has followed a similar pattern.

Assumptions underlying the projections

In presuming that there will be a reversal of the present trend, this study bases its projections on the following assumptions:

1. Estimates of agricultural development in the northeastern counties should indicate the maximum development possible with full use of water resources.
2. Population pressure will require higher ratios of people to land, and every productive acre of farm land will be called upon to support a maximum share of population.
3. To achieve a maximum ratio of people to farm land, farm land will be shifted generally into the most intensive use of which it is capable

This process will be aided by technological improvements which cannot now be predicted.

4. Farms will attract a large number of people as desirable places to live and make a living in the highly urbanized nation of the future.

State-wide increase in irrigated acreage

The State Division of Water Resources has estimated that a gross area of 19,050,000 acres is suitable for irrigated agriculture and that "under ultimate conditions of development in the State a net area averaging about 16,250,000 acres will actually be irrigated" (State Water Resources Board Bulletin No. 2, page 222).

This estimate is very close to that of Varden Fuller of the Giannini Foundation for Agricultural Economics, who has written:

"In combination, the various accelerating forces may approximately offset the growing resistances to the development of water resources and the achievements from their use. If so, the decades immediately ahead may see irrigation expansion at near the average of the past half century, namely, at an average of a million acres per decade. If development were to be at that rate, the estimated ultimate development of 17 million acres will be achieved by about 2050. If the accelerated rate of 1940-1950 were to be maintained, the ultimate would be reached by 2020" (from Chapter XVIII of Growth and Changes in California's Population, by Warren S. Thompson, the Haynes Foundation, Los Angeles 1955, pp. 288-289).

Basis for population increase

It has been noted that increases in irrigated land in California provide a basis for increased population. In studies for the Central Valley Project, the Bureau of Reclamation stated:

"The development of water and power affords new economic opportunities in agriculture and industry which can support an increased population. This factor is of prime importance in California where the population has expanded and probably will continue to expand much more rapidly than in the rest of the United States" (Report of U. S. Department of Interior, Bureau of Reclamation, Central Valley Basin, August 1949; printed as Senate Document 113, 81st Congress, 1st Session, page 63).

Ratio of new irrigated acreage to new farms

The Bureau of Reclamation report estimated that an increase of 3,860,000 in irrigated acreage in the Central Valley basin would provide a basis for creation of some 51,000 new farms - a ratio of 75.7 new irrigated acres per new farm (Report, page 198).

The projections presented in this report indicate that for the state as a whole, the increase in irrigated acreage from 7,048,049 in 1954 to 16,250,000 in 2050 will result in an increase in number of farms from 123,074 in 1954 to 220,000 in 2050 - a ratio of 94.9 new irrigated acres per new farm created.

For the 15 northeastern counties, the indicated increases are 2,525,837 irrigated acres and 15,639 farms - a ratio of 161.5 new irrigated acres per new farm created.

It is clear that the ratio for the 15 counties results in a conservative estimate of the increase in number of farms compared with increases indicated by the state and Central Valley ratios.

The ratio of new irrigated acres to estimated new farms in each of the northeastern counties is shown in Table 13.

Table 13

AVERAGE NUMBER OF NEW IRRIGATED ACRES
PER NEW FARM IN 15 NE. COUNTIES FROM 1954 TO 2050

| | Additional Irrigated Acres | New Farms | Ratio of New Acres to New Farms |
|----------|----------------------------------|--------------|---------------------------------------|
| Butte | 196,872 | 1,112 | 177.0 |
| Colusa | 236,971 | 1,834 | 129.2 |
| Glenn | 196,889 | 2,462 | 80.0 |
| Lake | 60,102 | 304 | 197.7 |
| Lassen | 388,282 | 1,348 | 288.0 |
| Modoc | 227,328 | 1,101 | 206.5 |
| Plumas | 85,899 | 249 | 345.0 |
| Shasta | 162,939 | 971 | 167.8 |
| Sierra | 34,899 | 214 | 163.1 |
| Siskiyou | 249,648 | 1,375 | 181.6 |
| Sutter | 99,266 | 808 | 122.9 |
| Tehama | 246,434 | 1,053 | 234.0 |
| Trinity | 13,036 | 15 | 869.1 |
| Yolo | 215,582 | 2,272 | 94.9 |
| Yuba | <u>111,690</u> | <u>521</u> | <u>214.4</u> |
| Total | 2,525,837 | 15,639 | 161.5 |
| State | 9,201,951 | 96,926 | 94.9 |

Procedure for estimating farm population and employment

Most of the figures presented in Table 14 and Tables 54-69 are historical data from the Census of Agriculture for 1930, 1940, 1950 and 1954. These data have been used to indicate current trends in agricultural development, and to provide a benchmark for estimates of ultimate development (2020-2050). Key determinations for ultimate development are the following:

Irrigated land in farms is the estimate of net irrigable acreage made by the State Department of Water Resources from its 1956 land classification survey. To obtain number of irrigated farms, this figure has been divided by an assumed average of irrigated acres per irrigated farm. The latter is a judgment figure based on the historical Census data, on probable ultimate crop patterns, and on opinions of agricultural experts interviewed in the various counties. Much assistance was obtained from Circular 173 of the California Agricultural Extension Service, Farming in California, May 1951.

It should be noted that the assumed figures of irrigated acreage per farm are generally higher than those indicated in Circular 173. Effort was made to have the assumed average reflect local conditions, including length of growing season and the probable ultimate crop pattern of each county.

In general, average irrigated acreage per farm is assumed to be greater where farming is expected to be predominantly extensive - livestock and pasture - and smaller where the dominant type of cultivation will be more intensive - field crops, truck crops, and orchards.

Average size of farm represents a judgment as to the minimum economic unit required to support a farm family. It is based on the same factors as the estimate for irrigated land in farms, namely, past trends, the judgment of local farm experts, and considerations set forth in Circular 173. The estimates for average size of farm used in the projections are considerably larger than the estimates of minimum economic unit made by expert sources.

Total land in farms is an estimate based largely on recent Census data, and on consideration of the expansion believed likely to take place in other land uses such as urban and recreational. A precise estimate of total land in farms in each county is not now available because the Census Bureau reports land in farms according to the county in which the farm headquarters is located. This means that some farm land credited to a specific county is located outside it; and some farm land in the county is not credited to it. Unless these acreages happen to balance, the reported Census figure overstates or understates actual land in farms in the county.

Average population per farm equals total farm population divided by number of farms as reported by the Census Bureau. Estimates of average population per farm at time of ultimate development are based on projected changes in average size of farms and employment required per farm. The figures represent all persons living on farms, and not solely members of the primary farm household.

Average employment per farm is also estimated primarily from the Census data. Consideration was given also to ultimate crop patterns and to farm labor requirements, as estimated by the Agricultural Extension Service. Average employment per farm is estimated as of April 1, and therefore tends to represent the permanent farm labor force. It is assumed that seasonal farm requirements will be supplied both by migratory labor and by residents who are not in the labor force on a year-around basis.

All other figures shown in the "ultimate" column of the tables on farm population and employment are derived from the foregoing key determinations.

RURAL FARM POPULATION AND EMPLOYMENT
DATA AND PROJECTIONS
STATE OF CALIFORNIA

| | 1930 | 1940 | 1950 | 1954 | Ultimate |
|---|------------|------------|-----------------------|------------|-------------|
| 1 Number of farms - total | 135,676 | 132,658 | 137,168 | 123,074 | 220,000 |
| 2 - irrigated farms | 85,784 | 84,310 | 90,755 | 84,502 | 203,500 |
| 3 - non-irrigated farms | 49,892 | 43,348 | 46,413 | 38,572 | 16,500 |
| 4 Land in farms - total (acres) | 30,442,581 | 30,524,324 | 36,613,291 | 37,800,380 | 37,500,000 |
| 5 - irrigated farms | 12,018,864 | 14,071,222 | 20,562,873 | 22,967,240 | 32,500,000 |
| 6 - non-irrigated farms | 18,423,717 | 16,453,102 | 16,050,418 | 14,833,140 | 5,000,000 |
| 7 Irrigated land in farms (acres) | 4,746,632 | 4,276,554 | 6,438,324 | 7,048,049 | 16,250,000* |
| 8 - % of land in farms | 15.6 | 14.0 | 17.6 | 18.6 | 43.3 |
| 9 - % land in irrigated farms | 39.5 | 30.4 | 31.3 | 30.7 | 50.0 |
| 10 - avg. per irrigated farm (acres) | 55.3 | 50.7 | 70.9 | 83.4 | 80. |
| 11 Average size of farm (acres) | 224.4 | 230.1 | 266.9 | 307.1 | 170 |
| 12 - irrigated farms | 140.1 | 166.9 | 226.6 | 271.8 | 160 |
| 13 - non-irrigated farms | 369.3 | 340.3 | 345.8 | 384.6 | 300 |
| 14 Farm population April 1 - total | 620,506 | 670,426 | 617,367 ^{1/} | | 1,070,000 |
| 15 - urban farm | 41,156 | 35,037 | 49,136 ^{1/} | | |
| 16 - rural farm - total | 579,350 | 635,389 | 568,231 ^{1/} | | 1,070,000 |
| 17 - rural farm; average per farm | 4.57 | 5.05 | 4.50 | | 4.9 |
| 18 - % state population | 10.9 | 9.71 | 5.83 | | 2.4 |
| 19 - no. per 1,000 acres | 20.38 | 21.96 | 16.86 | | 28.5 |
| 20 Farm employment, April 1, total | 334,241 | 265,871 | 286,642 | | 480,000 |
| 21 - % rural farm popu- lation | 57.7 | 41.8 | 50.4 | | 44.9 |
| 22 - % civiliam employment | 13.36 | 10.74 | 7.35 | | 2.8 |
| 23 - no. per 1,000 acres | 10.98 | 8.71 | 7.83 | | 12.8 |
| 24 - average per farm | 2.46 | 2.00 | 2.09 | | 2.2 |

^{1/} New definition.

Old: Urban farm - 32,204

Rural farm - 585,163

Note: 1930 employment is per old definition: "persons 10 years old and over engaged in gainful occupations."

* SWRB Bulletin No. 2, page 222

G. Estimation of April 1 employment in lumber and wood products industries in 15 northeastern California counties under conditions of probable ultimate sustained yield

The employment estimates for lumber and wood products industries shown in Table 15 are derived essentially from sustained yield capacity estimates supplied by the U. S. Forest Service, California Region, and employment factors published by Ralph W. Marquis, Forest Economist, U. S. Forest Service, in the Journal of Forestry, May 1948.

Sustained Yield

The estimates of sustained yield capacity are provided in a letter from B. H. Payne, Assistant Regional Forester, Division of Timber Management, U. S. Forest Service, California Region, to California State Division of Water Resources, dated March 13, 1956, reference "S-PLANS - Timber Management."

The estimates, according to W. R. Howden of the Timber Management section, are sustained yield capacities of timber areas and working circles in the 15 northeast counties, allocated as precisely as possible to individual counties. Both public and private forest lands are included.

The "ultimate sustained yield capacity" for the commercial forest land in each county is based upon the assumption that all lands capable of growing commercial forest stands would be used for that purpose, and that an

average stocking capacity of 80 percent would be obtained. The acreages in commercial forest stands used in these estimates are those shown by the California Forest and Range Experiment Station of the U. S. Forest Service in Forest Survey Release No. 25, December 1954, Table 12.

Sustained yield capacity is compared with estimates of current production of saw timber in Table 16.

Employment Factors

The employment factors for logging, rough lumber (sawmills) and "all other" wood products manufacture in Standard Industrial Classification Groups 24 and 25 are taken from the article by Ralph W. Marquis entitled "Employment Opportunities in Full Forest Utilization", Journal of Forestry, May 1948. These factors are presented in Tables 17 and 18.

Marquis estimates the employment which might result from full utilization of the timber resources of a typical area in the Douglas fir region of Oregon and Washington. The labor requirement factors used in his estimates, though not tested against specific experience in the California pine, fir and Douglas fir regions, appear to be in general agreement with employment ratios of timber operators in the northeast counties.

For example, Marquis shows that under present utilization there are approximately 10.0 men per million board feet of sawtimber cut, employed in logging, primary manufacture including rough lumber and plywood, and remanu-

facture including planing mill products, box and shoo. These are the principal lumber industry operations now found in the northeastern counties. The ratios reported by timber operators during a survey of the northeastern counties in July-August 1956 ranged from 6.0 to 12.0 men per million board feet of sawtimber cut, depending on the range of operations performed. For comparison, statewide employment in 1952 in lumber and wood products industries (excluding pulp and paper products) averaged 12 persons per million board feet of sawtimber cut that year. This ratio included furniture production which is not presently a factor in the northeastern counties.

Full Utilization

The concept of full utilization used by Marquis is based on the historical trend, demonstrated in timber areas of the East and Pacific Northwest, that "with the diminishing availability of an area's accessible timber resource, that area will shift to the production of more final and less primary products from its modified resource base - the net result of such a shift shows that greater employment may be obtained from a given resource input" (Walter J. Mead, "The Forest Products Economy of the Pacific Northwest", Land Economics, University of Wisconsin, May 1956).

California's forest industry is now based primarily on the single product, lumber. In 1952, employment in the industry averaged 68,097 persons, or 11.9 persons per million board feet of sawtimber cut that year.

EMPLOYMENT (APRIL 1) IN TIMBER INDUSTRY
15 NORTHEASTERN COUNTIES
1940, 1950 AND ULTIMATE

| | 1940 | 1950 | At Ultimate Sustained Timber Yield | | Total |
|----------|-------|--------|---|-----------------------------------|--------|
| | | | Lumber and Wood Products (SIC Gps. 24,25) | Pulp and Paper (SIC Gp. 26) | |
| Butte | 964 | 1,761 | 2,073 | 1,978 | 4,051 |
| Colusa | 11 | 27 | 74 | - | 74 |
| Glenn | 10 | 25 | 332 | - | 332 |
| Lake | 56 | 145 | 517 | - | 517 |
| Lassen | 2,540 | 1,894 | 1,636 | - | 1,636 |
| Modoc | 671 | 664 | 1,156 | - | 1,156 |
| Plumas | 1,129 | 1,527 | 3,215 | - | 3,215 |
| Shasta | 499 | 2,323 | 4,531 | 3,487 | 8,018 |
| Sierra | 295 | 170 | 1,380 | - | 1,380 |
| Siskiyou | 3,027 | 3,201 | 6,863 | 856 | 7,719 |
| Sutter | 9 | 100 | - | - | - |
| Tehama | 42 | 451 | 2,542 | 1,721 | 4,263 |
| Trinity | 24 | 644 | 1,902 | - | 1,902 |
| Yolo | 47 | 68 | - | - | - |
| Yuba | 54 | 543 | 859 | 837 | 1,696 |
| Total | 9,378 | 13,543 | 27,080 | 8,879 | 35,959 |

CURRENT TIMBER PRODUCTION AND SUSTAINED YIELD CAPACITY OF
COMMERCIAL FOREST LAND IN 15 NORTHEASTERN COUNTIES
(Production in millions of board feet of saw timber per year)

| | Current (1952-45 Average 1/) | Ultimate Sustained Yield Capacity 2/ |
|----------|---------------------------------|---|
| Butte | 147 | 135 |
| Colusa | - | 6 |
| Glenn | 37 | 27 |
| Lake | 24 | 42 |
| Lassen | 202 | 133 |
| Modoc | 104 | 94 |
| Plumas | 366 | 295 |
| Shasta | 377 | 303 |
| Sierra | 95 | 138 |
| Siskiyou | 378 | 558 |
| Sutter | - | - |
| Tehama | 92 | 166 |
| Trinity | 262 | 326 |
| Yolo | - | - |
| Yuba | 43 | 44 |
| Total | 2,127 | 2,267 |

1/ California State Department of Natural Resources, Division of Forestry, annual reports on commodity production of forest products.

2/ U. S. Department of Agriculture, Forest Service, California Region, letter from B. H. Payne to California State Division of Water Resources, March 13, 1956.

Table 17

LABOR REQUIREMENTS PER UNIT OF PRODUCTION
IN LUMBER AND WOOD PRODUCTS INDUSTRIES
(Present Utilization)

| Unit | | Marquis 1/ (No. Employed) | Forest Service ^{2/} |
|--------------------|------------------------|---------------------------------------|---------------------------------------|
| Logging | MM bd. ft. saw timber | 3.40 | 3.35 |
| Thinning | M cords | 5.00 | - |
| Rough lumber | MM bd. ft. | 3.25 | 3.25 |
| Dressed lumber | MM bd. ft. lumber used | 1.75 | 1.75 |
| Mill work | MM bd. ft. lumber used | 15.00 | 15.00 |
| Box | MM bd. ft. lumber used | 7.50 | 7.50 |
| Furniture | MM bd. ft. lumber used | 80.00 | |
| Caskets | MM bd. ft. lumber used | 10.00 | |
| Shingles | M squares | 0.63 | 0.63 |
| Plywood | MM sq. ft. | 5.44 | 5.40 |
| Pulp | M tons | 3.65 | 3.25 |
| Paper and board | M tons | 7.25 | 6.50 |
| Molasses | Ton | - | 4.50 |
| Alcohol | M gal. | - | 6.00 |

^{1/} Ralph W. Marquis, "Employment Opportunities in Full Forest Utilization," Journal of Forestry, May 1948.

^{2/} U. S. Forest Service, Report on Timber and Range Resources of the Upper Klamath Basin, in departmental report entitled Upper Klamath River Basin, U. S. Bureau of Reclamation, June 1954.

EMPLOYMENT RATIOS IN LUMBER AND WOOD PRODUCTS
INDUSTRIES WITH FULL UTILIZATION
Expressed as persons employed per MM bd. ft. of saw timber cut

| | Marquis ^{1/} | Used For This Report ^{2/} |
|---|-----------------------|---------------------------------------|
| Logging | 7.07 | 7.0 |
| Rough lumber | 3.34 | 3.3 |
| Plywood, shingles and cooperage, planing, furniture, mill work, box shook, etc. | 4.89 | 4.8 |
| Pulp | 2.30 | 1.8 |
| Paper board | 2.97 | 2.4 |
| Converted paper products | 0.66 | 0.5 |
| Use of sawmill waste | 1.50 | - |
| Total | 22.73 | 19.8 |

^{1/} See footnote 1, Table 17

^{2/} Derived from Marquis, adjusted according to labor requirements shown in Forest Service report (Table 17)

Marquis' typical Douglas-fir area shows under present utilization 11.6 persons employed per million board feet of saw timber cut; under full utilization, the same area has a potential for employment of 22.7 persons per million board feet. The increased employment is accounted for by salvage of cull timber and logging residues in the forest, by greater remanufacture of rough lumber, and by fuller use of logging and milling residues suitable for production of pulp, paper, hardboard and softboard, and other converted paper products.

The current rate of cutting in California forests is roughly double the current rate of growth of sawtimber. Some excess of growth over cut is reasonable and necessary because of the dominance of recent old-growth timber which makes little contribution to net growth.

" However, there is substantial evidence to indicate that the cut from California forests has reached a plateau level and that further significant increases in the volume of cut are not likely. Further expansion of the forest industries to contribute to the support of the expanding population and to add to the supply of needed forest products in the state must come primarily from increased use of the timber cut rather than from increases in the volume cut" (from draft report of the Cooperative Study on Waste Treatment and Disposal Aspects of Development of Pulp and Paper Resources of California, by the State Water Pollution Control Board and cooperating agencies, June 21, 1956).

April 1 Employment

Estimates of annual employment in lumber and wood products industries have been adjusted to an April 1 level for consistency with present methods of re-

porting population and employment used by the U. S. Bureau of the Census. Data of the California State Department of Employment and Department of Industrial Relations were used to formulate seasonal adjustment factors based on current experience.

A special tabulation of employment in logging camps, sawmills and planing mills in the 15 northeastern counties, prepared by the State Department of Employment for this study, shows the following April 1 employment levels (average of March and April):

| | <u>1950</u> | <u>1951</u> |
|--|-------------|-------------|
| April 1 employment, 15 counties, as percent of year average: | | |
| Logging camps and contractors | 57.3 | 78.5 |
| Sawmills and planing mills | 84.4 | 92.4 |

For the state as a whole in 1950, the April 1 level of logging employment was 65 percent of the year average; the level of employment in sawmills and planing mills was 84 percent.

For the state as a whole, State Department of Employment data show April 1 employment in the lumber and wood products industry (excluding furniture) has averaged 91 percent of the annual average in recent years (Table 19).

EMPLOYMENT IN CALIFORNIA LUMBER AND WOOD PRODUCTS
INDUSTRIES AS OF APRIL 1 AS PERCENT OF ANNUAL AVERAGE EMPLOYMENT

| Year | Lumber and Wood Products, Excluding Furniture | Furniture and Fixtures | Paper and Allied Products |
|---------|--|------------------------------|---------------------------------|
| 1950 | 84.1 | 95.8 | 92.2 |
| 1951 | 94.1 | 104.6 | 99.7 |
| 1952 | 89.9 | 96.0 | 96.0 |
| 1953 | 95.6 | 104.9 | 96.4 |
| 1954 | 91.3 | 98.5 | 97.4 |
| 1955 | 91.9 | 98.5 | 96.9 |
| Average | 91.2 | 99.7 | 96.4 |

Source: State Department of Employment -
California Employment & Payrolls 1950

State Department of Industrial Relations -
Handbook of California Labor Statistics,
1951-1952 and 1953-1954

Estimated Number of Wage & Salary Workers
in Non-Agricultural Establishments, by
Industry, California 1939-1955 (March 1956).

Pulp, Paper and Board

The estimates of employment in wood pulp, paper and paper board manufacture in Table 15 are based on the following assumptions:

1. Annual production of pulp material in the 15 northeastern California counties, with a sustained yield of 2,267 million board feet of saw timber per year, will approximate 220,000,000 cubic feet of solid wood residues (forest residue plus coarse mill residue). This is in the framework of the assumption by the California Forest and Range Experiment Station that total material available for pulp production in the State, with a sustained yield of 4,000 million board feet per year, will approximate 385,000,000 cubic feet per year.

2. The 220,000,000 cubic feet of pulp material will yield about 550,000,000 cubic feet of wood chips (@ 80 cubic feet solid wood equals 200 cubic feet of chips).

3. The 550,000,000 cubic feet of chips will produce approximately 1,375,000 tons of pulp (@ 400 cubic feet of chips per ton of pulp). To allow for some diversion of pulp material to other uses, this estimate is reduced to 1,285,000 tons of pulp per year for employment estimate purposes.

The latter figure is selected because it is consistent with the pulp production estimate resulting from the Cooperative Study on Waste

Treatment and Disposal Aspects of Development of Pulp and Paper Resources of California, by the State Water Pollution Control Board and cooperating agencies, July 31, 1956. The Cooperative Study estimated that under sustained yield conditions (4,000 million board feet per year) and with minimum diversion of sawlogs from existing wood processing industries (only about 10 percent of sawlogs would go to pulp mills), there would be sufficient pulp material to support mills with a daily capacity of 6,445 tons, including the existing mills at Antioch and Ukiah.

On a proportional basis, the 15 counties would produce sufficient material to support mills with a daily capacity of approximately 3,675 tons (@ 350 working days per year). The 15 counties, with 57 percent of the state's sustained yield of saw timber, would presumably have at least 57 percent of its pulp material. However, it is estimated that only about 85 percent of this pulp material would be processed in the 15-county area.

4. Employment in pulp mills would be on the order of 3.25 men per 1,000 tons produced, per year. This ratio is used by the U. S. Forest Service in its report on timber and range resources of the Upper Klamath Basin (published as part of report by U. S. Bureau of Reclamation, Upper Klamath River Basin, June 1954).

It is somewhat below the ratio of 3.65 men per 1,000 tons used by Marquis in his Journal of Forestry article, May 1948.

5. Employment in paper and board production would be on the order of 6.50 men per 1,000 tons of paper and board production. The latter is assumed to be two-thirds of pulp tonnage, as indicated by Marquis. The ratio of 6.50 men per 1,000 tons is used by the Forest Service in the Upper Klamath Basin report. It is somewhat lower than the ratio of 7.25 men per 1,000 tons used by Marquis.

Use of the foregoing assumption results in a range of estimates of total employment generated by the area's pulp material output of 9,700 to 10,300 employed per year (Table 20). The total of county estimates shown in Table 15 is somewhat below this range, due to adjustment to an April 1 basis and allowance for pulp material processing outside the 15-county area.

6. It is assumed that the location of mills producing pulp, paper and board will be confined generally to central valley counties such as Shasta, Tehama, Butte, Yuba, and perhaps Siskiyou. These counties will process pulp materials received from their own forests and sawmills, plus those of Modoc, Lassen, Plumas, Sierra, Glenn and Colusa. It is assumed further that Trinity County's pulp material will be processed in Shasta and Tehama counties and the

north coastal area, one-third share each; and that Lake County's pulp material will be processed entirely in the north coastal area. These assumptions are based in the main on the findings of the Cooperative Study and in part on judgment factors resulting from interviews and observations in the various counties.

Output of major timber products

As a final step, estimates of annual production of major timber products in each of the 15 northeastern counties, under conditions of sustained yield and full forest utilization, have been made and are presented in Table 21. These estimates are derived from the data, estimates and assumptions presented in this section, including the sustained yield estimates provided by the Forest Service, the analysis of full utilization by Marquis, the pulp production estimates of the State Water Pollution Control Board Cooperative Study, and the assumptions as to location of pulp mills made by the authors of this report.

TOTAL YEARLY EMPLOYMENT IN PULP, PAPER AND BOARD PRODUCTION
RESULTING FROM SUSTAINED YIELD CUTTING PROGRAM AND
FULL FOREST UTILIZATION IN 15 NORTHEASTERN COUNTIES

Estimate No. 1

| | | | |
|----|--|---------------|---|
| 1) | State output of pulp material assuming sustained yield of 4,000 million board feet saw timber | = | 385,000,000 cu.ft. |
| 2) | 15-county output of solid pulp material assuming sustained yield of 2,267 million board feet saw-timber (56.7% of state total) | = | 218,295,000 cu.ft. |
| 3) | 218,295,000 cu. ft. solid pulp material (@ 80 cu. ft. solid wood = 200 cu. ft. chips) | = | 545,737,500 cu.ft. chips |
| 4) | 545,737,500 cu. ft. chips (@ 400 cu. ft. chips = 1 ton pulp) | = | 1,364,340 tons pulp (= 602 tons pulp/MM bd.ft. logs) |
| 5) | Daily capacity @ 350 days/year | | <u>3,898 tons</u> |
| 6) | 1,364,340 tons pulp = (@ 3.25 men/M tons pulp) (@ 6.50 men/M tons paper and board) (1 ton pulp = 2/3 ton paper and board) | employment of | <u>4,434</u> in pulp <u>5,912</u> in paper and board |
| | Total | | 10,346 |

Estimate No. 2

| | |
|----|---|
| 1) | State sustained yield of 4,000 million bd. ft. saw timber will provide enough pulp material for 6,445 tons daily capacity of mills. (State Water Pollution Control Board, Cooperative Study) |
| 2) | 15 northeastern counties, with 2,267 million bd. ft. of sawtimber (56.7% of state total) will provide enough material for <u>3,650</u> tons daily capacity of mills. |
| 3) | $3,650 \times 350 \text{ days} = 1,277,500 \text{ tons/year}$ |
| 4) | $1,277,500 \times 3.25 = 4,152 \text{ men in pulp (= 1.83 men/MM bd. ft. saw logs)}$ $852,000 \times 6.50 = \underline{5,538} \text{ men in paper and board (= 2.44 men/MM ft. saw logs)}$ |
| | Total 9,690 |

Note: These estimates represent total yearly employment provided by all pulp material produced in the 15 counties. The estimate used for the 15 counties - 8,879 - represents April 1 employment, from approximately 85 percent of the pulp material produced in the area.

Table 21

ESTIMATED ANNUAL PRODUCTION OF MAJOR TIMBER PRODUCTS IN
15 NORTHEASTERN COUNTIES AT SUSTAINED YIELD

| County | Lumber (MM bd. ft.) | Plywood (M sq. ft.) | Pulp (M tons) | Paper and Paperboard (M tons) |
|----------|------------------------|------------------------|------------------|-------------------------------------|
| Butte | 286 | 21,840 | 244 | 156 |
| Colusa | 6 | 985 | | |
| Glenn | 27 | 4,360 | | |
| Lake | 42 | 6,790 | | |
| Lassen | 134 | 21,520 | | |
| Modoc | 95 | 15,195 | | |
| Plumas | 149 | 47,730 | | |
| Shasta | 417 | 66,610 | 431 | 276 |
| Sierra | 140 | 11,150 | | |
| Siskiyou | 566 | 90,285 | 106 | 68 |
| Tehama | 168 | 44,440 | 213 | 135 |
| Trinity | 111 | 8,000 | | |
| Yuba | 45 | 18,290 | 103 | 66 |
| Total | 2,186 | 357,200 | 1,097 | 701 |

V. BASIC DATA AND PROJECTIONS

The tables which follow (Tables 22 - 69) comprise the basic statistical data and projections of the report. The first group of tables (Tables 22 - 37) deals with population; the second group (Tables 38 - 53) with employment; and the third group (Tables 54 - 69) with farm population and farm employment.

Sources of data are as follows:

Population

Population data for 1920-1950 are from the Census of Population for those years. The 1920 Census was taken as of January 1; others were taken as of April 1.

The projections of ultimate population are based on estimates of future employment and on relationships of population growth in the northeastern counties to that in the state and nation.

Employment

Employment data for 1940 and 1950 are from the Census of Population for those years.

Projections of ultimate employment are based on estimates of employment in local resource-based industries, agriculture and lumbering and wood products manufacture. The proportions of total employment provided by these industries and other economic activities have been projected on the basis of long-term trends observed from historical data for the United States and California.

A remarkable consistency has been found in the historical relationship between the proportion of employment in agriculture and lumber and wood products manufacture and the proportion of population residing in urban places. This relationship has been used as a check on the consistency and reasonableness of the projections.

Farm population and employment

Data for 1930, 1940 and 1950 and 1954 are from the Census of Agriculture.

Projections shown in the "ultimate" column are based on the key figure of irrigated land in farms, as estimated by the State Department of Water Resources from its 1956 land classification survey. All other figures in the column represent direct or derived judgments, based on consideration of the Census data for past years, and on information, judgments and opinions obtained from experts in the field of agriculture. These include farm advisors, agricultural commissioners and representative farmers interviewed in each county; soil classification experts of the Department of Water Resources; and agricultural economists of the California Agricultural Extension Service.

Tables 22-37 POPULATION DATA AND PROJECTIONS NORTHEASTERN CALIFORNIA COUNTIES

| COUNTY | 1920 | 1930 | 1940 | 1950 | Ultimate* |
|--------------------------|---------|---------|---------|---------|-----------|
| 15 COUNTIES TOTAL | | | | | |
| Total population | 162,905 | 199,089 | 249,298 | 330,339 | 1,747,400 |
| Urban | 30,881 | 36,884 | 43,892 | 114,465 | 1,203,980 |
| Rural farm) | | 65,778 | 67,965 | 60,993 | 128,550 |
| Rural non-farm) | 132,024 | 96,427 | 137,441 | 154,941 | 414,870 |
| Percent distribution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Urban | 19.0 | 18.5 | 17.6 | 34.6 | 68.9 |
| Rural farm) | | 33.0 | 27.3 | 18.5 | 7.4 |
| Rural non-farm) | 81.0 | 48.5 | 55.1 | 46.9 | 23.7 |
| BUTTE | | | | | |
| Total population | 30,030 | 34,093 | 42,840 | 64,930 | 284,000 |
| Urban | 12,679 | 11,659 | 13,708 | 27,225 | 210,160 |
| Rural farm) | | 9,144 | 10,465 | 9,408 | 15,820 |
| Rural non-farm) | 17,351 | 13,290 | 18,667 | 28,297 | 58,020 |
| Percent distribution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Urban | 42.2 | 34.2 | 32.0 | 41.9 | 74.0 |
| Rural farm) | | 26.8 | 24.4 | 14.5 | 5.6 |
| Rural non-farm) | 57.8 | 39.0 | 43.6 | 43.6 | 20.4 |
| COLUSA | | | | | |
| Total population | 9,290 | 10,258 | 9,788 | 11,651 | 68,000 |
| Urban | - | - | - | 3,031 | 40,120 |
| Rural farm) | | 4,394 | 3,781 | 2,907 | 10,650 |
| Rural non-farm) | 9,290 | 5,864 | 6,007 | 5,713 | 17,230 |
| Percent distribution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Urban | - | - | - | 26.0 | 59.0 |
| Rural farm) | | 42.8 | 38.6 | 25.0 | 15.7 |
| Rural non-farm) | 100.0 | 57.2 | 61.4 | 49.0 | 25.3 |
| GLENN | | | | | |
| Total population | 11,853 | 10,935 | 12,195 | 15,448 | 85,000 |
| Urban | - | - | - | 3,019 | 48,450 |
| Rural farm) | | 6,110 | 5,978 | 6,286 | 16,000 |
| Rural non-farm) | 11,853 | 4,825 | 6,217 | 6,143 | 20,550 |
| Percent distribution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Urban | - | - | - | 19.5 | 57.0 |
| Rural farm) | | 55.9 | 49.0 | 40.7 | 18.8 |
| Rural non-farm) | 100.0 | 44.1 | 51.0 | 39.8 | 24.2 |
| LAKE | | | | | |
| Total population | 5,402 | 7,166 | 8,069 | 11,481 | 65,000 |
| Urban | - | - | - | - | 29,250 |
| Rural farm) | | 3,027 | 2,997 | 2,824 | 4,300 |
| Rural non-farm) | 5,402 | 4,139 | 5,072 | 8,657 | 31,450 |
| Percent distribution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Urban | - | - | - | - | 45.0 |
| Rural farm) | | 42.2 | 37.1 | 24.6 | 6.6 |
| Rural non-farm) | 100.0 | 57.8 | 62.9 | 75.4 | 48.4 |
| LASSEN | | | | | |
| Total population | 8,507 | 12,589 | 14,479 | 18,474 | 67,500 |
| Urban | - | - | - | 8,956 | 40,500 |
| Rural farm) | | 2,199 | 2,115 | 1,659 | 7,850 |
| Rural non-farm) | 8,507 | 10,390 | 12,364 | 7,859 | 19,150 |
| Percent distribution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Urban | - | - | - | 48.5 | 60.0 |
| Rural farm) | | 17.5 | 14.6 | 9.0 | 11.6 |
| Rural non-farm) | 100.0 | 82.5 | 85.4 | 42.5 | 28.4 |
| MODOC | | | | | |
| Total population | 5,425 | 8,038 | 8,713 | 9,678 | 51,100 |
| Urban | - | - | - | 2,819 | 29,640 |
| Rural farm) | | 2,762 | 3,048 | 3,066 | 7,400 |
| Rural non-farm) | 5,425 | 5,276 | 5,665 | 3,793 | 14,060 |
| Percent distribution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Urban | - | - | - | 29.1 | 58.0 |
| Rural farm) | | 34.4 | 35.0 | 31.7 | 14.5 |
| Rural non-farm) | 100.0 | 65.6 | 65.0 | 39.2 | 27.5 |
| PLUMAS | | | | | |
| Total population | 5,681 | 7,913 | 11,548 | 13,519 | 44,700* |
| Urban | - | - | - | - | 22,350 |
| Rural farm) | | 908 | 700 | 536 | 1,500 |
| Rural non-farm) | 5,681 | 7,005 | 10,848 | 12,983 | 20,850 |
| Percent distribution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Urban | - | - | - | - | 50.0 |
| Rural farm) | | 11.5 | 6.1 | 4.0 | 3.4 |
| Rural non-farm) | 100.0 | 88.5 | 93.9 | 96.0 | 46.6 |

| COUNTY | 1920 | 1930 | 1940 | 1950 | Ultimate* |
|----------------------|--------|--------|--------|--------|-----------|
| SHASTA | | | | | |
| Total population | 13,361 | 13,927 | 28,800 | 36,413 | 100,000 |
| Urban | 2,962 | 4,188 | 8,109 | 10,256 | 20,000 |
| Rural farm) | | 4,394 | 5,140 | 4,100 | 10,000 |
| Rural non-farm) | 10,399 | 5,345 | 15,551 | 22,057 | 70,000 |
| Percent distribution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Urban | 22.2 | 30.1 | 28.2 | 28.2 | 28.2 |
| Rural farm) | | 31.5 | 17.8 | 11.2 | 11.2 |
| Rural non-farm) | 77.8 | 38.4 | 54.0 | 60.6 | 60.6 |
| SIERRA | | | | | |
| Total population | 1,783 | 2,422 | 3,025 | 2,410 | 10,000 |
| Urban | - | - | - | - | 1,000 |
| Rural farm) | | 265 | 306 | 205 | 1,000 |
| Rural non-farm) | 1,783 | 2,157 | 2,719 | 2,205 | 9,000 |
| Percent distribution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Urban | - | - | - | - | 10.0 |
| Rural farm) | | 10.9 | 10.1 | 8.5 | 8.5 |
| Rural non-farm) | 100.0 | 89.1 | 89.9 | 91.5 | 91.5 |
| SISKIYOU | | | | | |
| Total population | 18,545 | 25,480 | 28,598 | 30,733 | 100,000 |
| Urban | 2,528 | 2,610 | 4,968 | 5,966 | 20,000 |
| Rural farm) | | 5,355 | 5,463 | 4,359 | 10,000 |
| Rural non-farm) | 16,017 | 17,515 | 23,135 | 20,408 | 70,000 |
| Percent distribution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Urban | 13.6 | 10.2 | 17.2 | 19.4 | 19.4 |
| Rural farm) | | 21.0 | 19.1 | 14.2 | 14.2 |
| Rural non-farm) | 86.4 | 68.8 | 80.9 | 66.4 | 66.4 |
| SUTTER | | | | | |
| Total population | 10,115 | 14,618 | 18,680 | 26,239 | 100,000 |
| Urban | - | 3,605 | 4,968 | 7,861 | 20,000 |
| Rural farm) | | 8,088 | 8,134 | 8,724 | 10,000 |
| Rural non-farm) | 10,115 | 2,925 | 5,578 | 9,654 | 70,000 |
| Percent distribution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Urban | - | 24.7 | 26.6 | 30.0 | 30.0 |
| Rural farm) | | 55.3 | 43.5 | 33.2 | 33.2 |
| Rural non-farm) | 100.0 | 20.0 | 29.9 | 36.8 | 36.8 |
| TEHAMA | | | | | |
| Total population | 12,882 | 13,866 | 14,316 | 19,276 | 100,000 |
| Urban | 3,104 | 3,517 | 3,824 | 7,442 | 20,000 |
| Rural farm) | | 6,764 | 6,835 | 6,313 | 10,000 |
| Rural non-farm) | 9,778 | 3,585 | 3,657 | 5,521 | 70,000 |
| Percent distribution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Urban | 24.1 | 25.4 | 26.7 | 38.6 | 38.6 |
| Rural farm) | | 48.8 | 47.8 | 32.8 | 32.8 |
| Rural non-farm) | 75.9 | 25.8 | 25.5 | 28.6 | 28.6 |
| TRINITY | | | | | |
| Total population | 2,551 | 2,809 | 3,970 | 5,087 | 100,000 |
| Urban | - | - | - | - | 1,000 |
| Rural farm) | | 1,191 | 1,175 | 688 | 1,000 |
| Rural non-farm) | 2,551 | 1,618 | 2,795 | 4,399 | 99,000 |
| Percent distribution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Urban | - | - | - | - | 10.0 |
| Rural farm) | | 42.4 | 29.6 | 13.5 | 13.5 |
| Rural non-farm) | 100.0 | 57.6 | 70.4 | 86.5 | 86.5 |
| YOLO | | | | | |
| Total population | 17,105 | 23,644 | 27,243 | 40,640 | 100,000 |
| Urban | 4,147 | 5,542 | 6,637 | 21,986 | 40,000 |
| Rural farm) | | 8,720 | 9,082 | 6,779 | 10,000 |
| Rural non-farm) | 12,958 | 9,382 | 11,524 | 11,875 | 50,000 |
| Percent distribution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Urban | 24.2 | 23.4 | 24.4 | 54.1 | 54.1 |
| Rural farm) | | 36.9 | 33.3 | 16.7 | 16.7 |
| Rural non-farm) | 75.8 | 39.7 | 42.3 | 29.2 | 29.2 |
| YUBA | | | | | |
| Total population | 10,375 | 11,331 | 17,034 | 24,420 | 100,000 |
| Urban | 5,461 | 5,763 | 6,646 | 15,904 | 40,000 |
| Rural farm) | | 2,457 | 2,746 | 3,139 | 10,000 |
| Rural non-farm) | 4,914 | 3,111 | 7,642 | 5,377 | 50,000 |
| Percent distribution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Urban | 52.6 | 50.9 | 39.0 | 65.1 | 65.1 |
| Rural farm) | | 21.7 | 16.1 | 12.9 | 12.9 |
| Rural non-farm) | 47.4 | 27.4 | 44.9 | 22.0 | 22.0 |

*SDWR estimate in Report on Upper Feather River Service Area is: Total: 41,200; urban: 24,500; rural: 16,700

NOTE: 1950 urban population includes cities and unincorporated places having inhabitants or more. In previous census years, only incorporated places having inhabitants or more were considered "urban."

Tables 38-53 EMPLOYMENT DATA AND PROJECTIONS NORTH-EASTERN CALIFORNIA COUNTIES (Employment as of April 1)

| COUNTIES | 1940 | | 1950 | | Ultimate | | SHASTA | 1940 | | 1950 | | Ultimate | |
|---------------------|--------|-------|---------|-------|----------|-------|----------------------|--------|-------|--------|-------|----------|-------|
| | No. | % | No. | % | No. | % | | No. | % | No. | % | No. | % |
| County group | 86,074 | 100.0 | 116,254 | 100.0 | 639,335 | 100.0 | Industry group | 10,042 | 100.0 | 12,743 | 100.0 | 70,200 | 100.0 |
| Vegetable | 29,074 | 33.8 | 27,362 | 23.5 | 59,258 | 9.3 | Total | 1,882 | 18.74 | 1,487 | 11.67 | 3,060 | 4.3 |
| Culture | 23,705 | 27.6 | 25,416 | 21.9 | 55,113 | 8.6 | Extractive | 1,254 | 12.49 | 1,161 | 9.11 | 2,460 | 3.5 |
| Fisheries | 525 | 0.6 | 869 | 0.7 | 4,145 | 0.6 | Agriculture | 70 | .70 | 174 | 1.37 | 300 | .4 |
| Logging | 4,804 | 5.6 | 1,077 | 0.9 | | | Forestry & fisheries | 558 | 5.55 | 152 | 1.19 | 300 | .4 |
| Mining | 12,042 | 14.0 | 18,397 | 15.8 | 108,993 | 17.0 | Mining | 758 | 7.55 | 2,650 | 20.80 | 14,740 | 21.0 |
| Manufacturing | 9,478 | 11.0 | 13,543 | 11.6 | 27,080 | 4.2 | Lbr. & wood prod. | 499 | 4.97 | 2,323 | 18.23 | 4,530 | 6.5 |
| Other manufacturing | 2,564 | 3.0 | 4,854 | 4.2 | 81,913 | 12.8 | Other manufacturing | 259 | 2.58 | 327 | 2.57 | 10,210 | 14.5 |
| | 44,958 | 52.2 | 70,495 | 60.7 | 471,084 | 73.7 | All other | 7,402 | 73.71 | 8,606 | 67.53 | 52,400 | 74.6 |
| | | | | | | | SIERRA | | | | | | |
| | 12,896 | 100.0 | 21,366 | 100.0 | 102,200 | 100.0 | Total | 1,289 | 100.0 | 795 | 100.0 | 5,750 | 100.0 |
| | 3,816 | 29.59 | 3,841 | 17.98 | 6,330 | 6.2 | Extractive | 562 | 43.60 | 148 | 18.62 | 500 | 8.7 |
| | 3,052 | 23.67 | 3,582 | 16.77 | 5,930 | 5.8 | Agriculture | 110 | 8.53 | 67 | 8.43 | 300 | 5.2 |
| | 40 | .31 | 83 | .39 | 100 | 0.4 | Forestry & fisheries | 9 | .70 | 8 | 1.01 | 50 | .9 |
| | 724 | 5.61 | 176 | .82 | 300 | | Mining | 443 | 34.37 | 73 | 9.18 | 150 | 2.6 |
| | 1,599 | 12.40 | 3,226 | 15.10 | 18,400 | 18.0 | Manufacturing | 310 | 24.05 | 204 | 25.66 | 1,500 | 26.1 |
| | 964 | 7.48 | 1,761 | 8.24 | 2,073 | 2.0 | Lbr. & wood prod. | 295 | 22.89 | 170 | 21.38 | 1,380 | 24.0 |
| | 635 | 4.92 | 1,465 | 6.86 | 16,327 | 16.0 | Other manufacturing | 15 | 1.16 | 34 | 4.28 | 120 | 2.1 |
| | 7,481 | 58.01 | 14,299 | 66.92 | 77,470 | 75.8 | All other | 417 | 32.35 | 443 | 55.72 | 3,750 | 65.2 |
| | | | | | | | SISKIYOU | | | | | | |
| | 3,482 | 100.0 | 4,268 | 100.0 | 26,500 | 100.0 | Total | 11,204 | 100.0 | 11,662 | 100.0 | 46,180 | 100.0 |
| | 1,682 | 48.30 | 1,892 | 44.33 | 5,900 | 22.3 | Extractive | 2,917 | 26.04 | 1,869 | 16.03 | 4,650 | 10.1 |
| | 1,664 | 47.79 | 1,878 | 44.00 | 5,830 | 22.0 | Agriculture | 1,900 | 16.97 | 1,484 | 12.73 | 3,925 | 8.5 |
| | 14 | .40 | 8 | .19 | 70 | .3 | Forestry & fisheries | 118 | 1.05 | 187 | 1.60 | 350 | .8 |
| | 87 | 2.50 | 156 | 3.66 | 2,120 | 8.0 | Mining | 899 | 8.02 | 198 | 1.70 | 375 | .8 |
| | 11 | .32 | 27 | .63 | 74 | .3 | Manufacturing | 3,192 | 28.49 | 3,429 | 29.40 | 9,220 | 20.0 |
| | 76 | 2.18 | 129 | 3.03 | 2,046 | 7.7 | Lbr. & wood prod. | 3,027 | 27.02 | 3,201 | 27.45 | 6,864 | 14.9 |
| | 1,713 | 49.20 | 2,220 | 52.01 | 18,480 | 69.7 | Other manufacturing | 165 | 1.47 | 228 | 1.95 | 2,356 | 5.1 |
| | | | | | | | All other | 5,095 | 45.47 | 6,364 | 54.57 | 32,310 | 69.9 |
| | | | | | | | SUTTER | | | | | | |
| | 4,209 | 100.0 | 5,858 | 100.0 | 32,080 | 100.0 | Total | 5,729 | 100.0 | 8,942 | 100.0 | 47,180 | 100.0 |
| | 2,170 | 51.56 | 2,543 | 43.41 | 8,080 | 25.2 | Extractive | 2,909 | 50.78 | 3,497 | 39.11 | 5,290 | 11.2 |
| | 2,144 | 50.94 | 2,517 | 42.97 | 8,000 | 25.0 | Agriculture | 2,848 | 49.71 | 3,457 | 38.66 | 5,190 | 11.0 |
| | 17 | .40 | 23 | .39 | 80 | .2 | Forestry & fisheries | 3 | .06 | 4 | .04 | 100 | 0.2 |
| | 9 | .22 | 3 | .05 | | | Mining | 58 | 1.01 | 36 | .41 | | |
| | 170 | 4.04 | 320 | 5.46 | 2,570 | 8.0 | Manufacturing | 213 | 3.72 | 503 | 5.62 | 7,550 | 16.0 |
| | 10 | .24 | 25 | .43 | 332 | 1.0 | Lbr. & wood prod. | 9 | .16 | 100 | 1.12 | | |
| | 160 | 3.80 | 295 | 5.03 | 2,238 | 7.0 | Other manufacturing | 204 | 3.56 | 403 | 4.50 | 7,550 | 16.0 |
| | 1,869 | 44.40 | 2,995 | 51.13 | 21,430 | 66.8 | All other | 2,607 | 45.50 | 4,942 | 55.27 | 34,340 | 72.8 |
| | | | | | | | TEHAMA | | | | | | |
| | 2,573 | 100.0 | 3,946 | 100.0 | 21,000 | 100.0 | Total | 4,800 | 100.0 | 6,941 | 100.0 | 36,800 | 100.0 |
| | 1,064 | 41.35 | 1,185 | 30.03 | 1,700 | 8.1 | Extractive | 2,008 | 41.83 | 2,024 | 29.16 | 3,560 | 9.7 |
| | 915 | 35.56 | 1,125 | 28.51 | 1,680 | 8.0 | Agriculture | 1,963 | 40.90 | 1,967 | 28.34 | 3,310 | 9.0 |
| | 21 | .82 | 40 | 1.01 | 120 | .1 | Forestry & fisheries | 30 | .62 | 49 | .71 | 150 | 0.7 |
| | 128 | 4.97 | 20 | .51 | | | Mining | 15 | .31 | 8 | .11 | 100 | |
| | 123 | 4.78 | 258 | 6.54 | 1,678 | 8.0 | Manufacturing | 200 | 4.17 | 759 | 10.94 | 6,630 | 18.0 |
| | 56 | 2.18 | 145 | 3.68 | 517 | 2.5 | Lbr. & wood prod. | 42 | .88 | 451 | 6.50 | 2,540 | 6.9 |
| | 67 | 2.60 | 113 | 2.86 | 1,161 | 5.5 | Other manufacturing | 158 | 3.29 | 308 | 4.44 | 4,090 | 11.1 |
| | 1,386 | 53.87 | 2,503 | 63.43 | 17,622 | 83.9 | All other | 2,592 | 54.00 | 4,158 | 59.90 | 26,610 | 72.3 |
| | | | | | | | TRINITY | | | | | | |
| | 5,476 | 100.0 | 6,569 | 100.0 | 24,930 | 100.0 | Total | 1,388 | 100.0 | 1,764 | 100.0 | 7,925 | 100.0 |
| | 830 | 15.16 | 706 | 10.75 | 3,700 | 14.8 | Extractive | 864 | 62.25 | 369 | 20.92 | 508 | 6.4 |
| | 760 | 13.89 | 644 | 9.80 | 3,490 | 14.0 | Agriculture | 303 | 21.83 | 227 | 12.87 | 208 | 2.6 |
| | 49 | .89 | 61 | .93 | 210 | 0.8 | Forestry & fisheries | 50 | 3.60 | 52 | 2.95 | 120 | 1.5 |
| | 21 | .38 | 1 | .02 | | | Mining | 511 | 36.82 | 90 | 5.10 | 180 | 2.3 |
| | 2,738 | 50.0 | 1,997 | 30.40 | 2,500 | 10.0 | Manufacturing | 33 | 2.38 | 651 | 36.90 | 2,100 | 26.5 |
| | 2,640 | 48.21 | 1,894 | 28.83 | 1,636 | 6.6 | Lbr. & wood prod. | 24 | 1.73 | 644 | 36.50 | 1,902 | 24.0 |
| | 98 | 1.79 | 103 | 1.57 | 864 | 3.4 | Other manufacturing | 9 | .65 | 7 | .40 | 198 | 2.5 |
| | 1,908 | 34.84 | 3,866 | 58.85 | 18,730 | 75.2 | All other | 491 | 35.37 | 744 | 42.18 | 5,317 | 67.1 |
| | | | | | | | YOLO | | | | | | |
| | 3,328 | 100.0 | 3,735 | 100.0 | 18,510 | 100.0 | Total | 9,747 | 100.0 | 15,072 | 100.0 | 146,250 | 100.0 |
| | 1,237 | 37.17 | 1,203 | 32.21 | 2,945 | 15.9 | Extractive | 4,260 | 43.70 | 4,772 | 31.66 | 9,450 | 6.4 |
| | 1,161 | 34.89 | 1,128 | 30.20 | 2,775 | 15.0 | Agriculture | 4,224 | 43.33 | 4,728 | 31.37 | 9,250 | 6.3 |
| | 35 | 1.05 | 66 | 1.77 | 120 | .9 | Forestry & fisheries | 11 | .11 | 24 | .16 | 200 | 0.1 |
| | 41 | 1.23 | 9 | .24 | 50 | | Mining | 25 | .26 | 20 | .13 | | |
| | 720 | 21.63 | 739 | 19.79 | 1,700 | 9.2 | Manufacturing | 525 | 5.39 | 1,064 | 7.06 | 29,250 | 20.0 |
| | 671 | 20.16 | 664 | 17.78 | 1,156 | 6.3 | Lbr. & wood prod. | 47 | .48 | 68 | .45 | | |
| | 49 | 1.47 | 75 | 2.01 | 544 | 2.9 | Other manufacturing | 478 | 4.91 | 996 | 6.61 | 29,250 | 20.0 |
| | 1,371 | 41.20 | 1,793 | 48.00 | 13,865 | 74.9 | All other | 4,962 | 50.91 | 9,236 | 61.28 | 107,550 | 73.5 |
| | | | | | | | YUBA | | | | | | |
| | 4,475 | 100.0 | 5,028 | 100.0 | 16,080 | 100.0 | Total | 5,436 | 100.0 | 7,565 | 100.0 | 37,750 | 100.0 |
| | 1,176 | 26.28 | 320 | 6.36 | 700 | 4.3 | Extractive | 1,697 | 31.22 | 1,506 | 19.91 | 2,885 | 7.3 |
| | 281 | 6.28 | 187 | 3.72 | 500 | 3.1 | Agriculture | 1,126 | 20.71 | 1,264 | 16.71 | 2,265 | 6.0 |
| | 60 | 1.34 | 61 | 1.21 | 100 | .6 | Forestry & fisheries | 8 | .15 | 25 | .38 | 100 | 1.3 |
| | 835 | 18.66 | 72 | 1.43 | 100 | .6 | Mining | 563 | 10.36 | 213 | 2.82 | 400 | |
| | 1,171 | 26.17 | 1,601 | 31.84 | 3,375 | 21.0 | Manufacturing | 203 | 3.73 | 840 | 11.10 | 5,660 | 15.0 |
| | 1,129 | 25.23 | 1,527 | 30.37 | 3,215 | 20.0 | Lbr. & wood prod. | 54 | .99 | 543 | 7.18 | 859 | 2.3 |
| | 42 | .94 | 74 | 1.47 | 160 | 1.0 | Other manufacturing | 149 | 2.74 | 297 | 3.92 | 4,801 | 12.7 |
| | 2,128 | 47.55 | 3,107 | 61.80 | 12,005 | 74.7 | All other | 3,536 | 65.05 | 5,219 | 68.99 | 29,205 | 77.7 |

NOTE:

Lumber and wood products include industries in Standard Industrial Classification Groups 24 and 25. Pulp, paper and allied products (S.I.C. Group 26) are included in "Other manufacturing," which is in accordance with present Census Bureau practice.

Table 54

RURAL FARM POPULATION AND EMPLOYMENT
NORTHEASTERN CALIFORNIA COUNTIES
1930-54 and Ultimate

15 N. E. Counties

| | 1930 | 1940 | 1950 | 1954 | Ultimate |
|---|-----------|-----------|-----------|-----------|----------|
| 1 Number of farms - total | 15,825 | 14,827 | 15,375 | 15,248 | 30,88 |
| 2 - irrigated farms | 8,854 | 9,432 | 10,518 | 10,985 | 28,06 |
| 3 - non-irrigated farms | 6,971 | 5,395 | 4,857 | 4,263 | 2,82 |
| 4 Land in farms - total (acres) | 6,846,424 | 6,856,600 | 7,715,014 | 8,107,983 | 8,155,00 |
| 5 - irrigated farms | 3,178,360 | 4,087,248 | 4,972,678 | 5,701,561 | 7,024,85 |
| 6 - non-irrigated farms | 3,668,064 | 2,769,352 | 2,742,336 | 2,406,422 | 1,130,15 |
| 7 Irrigated land in farms (acres) | 674,501 | 869,283 | 1,085,368 | 1,278,063 | 3,803,90 |
| 8 - % of land in farms | 9.9 | 12.7 | 14.1 | 15.8 | 46. |
| 9 - % land in irrigated farms | 21.2 | 21.3 | 21.8 | 22.4 | 54. |
| 10 - avg. per irrigated farm (acres) | 76.2 | 92.2 | 103.2 | 116.3 | 135. |
| 11 Average size of farm (acres) | 432.6 | 462.4 | 501.8 | 531.7 | 264 |
| 12 - irrigated farms | 359.0 | 433.3 | 472.8 | 519.0 | 250 |
| 13 - non-irrigated farms | 526.2 | 513.3 | 564.6 | 564.5 | 400 |
| 14 Farm population - total | 66,158 | 68,088 | 61,592 | | 128,55 |
| 15 - urban farm | 380 | 123 | 599 | | - |
| 16 - rural farm - total | 65,778 | 67,965 | 60,993 | | 128,55 |
| 17 - rural farm, average per farm | 4.16 | 4.58 | 3.97 | | 4. |
| 18 - % county population | 33.0 | 27.3 | 18.5 | | 7. |
| 19 - no. per 1,000 acres | 9.61 | 9.91 | 7.91 | | 15. |
| 20 Farm employment, April 1, total | 33,374 | 23,705 | 25,416 | | 55,11 |
| 21 - % rural farm population | 50.7 | 34.9 | 41.7 | | 42. |
| 22 - % civiliam employment | 37.2 | 27.5 | 21.9 | | 8. |
| 23 - no. per 1,000 acres | 4.87 | 3.46 | 3.29 | | 6. |
| 24 - average per farm | 2.11 | 1.60 | 1.65 | | 1. |

Note: 1930 employment is per old definition: "persons 10 years old and over engaged in gainful occupations."

RURAL FARM POPULATION AND EMPLOYMENT NORTHEASTERN CALIFORNIA COUNTIES 1930-54 and Ultimate

Butte County

| | 1930 | 1940 | 1950 | 1954 | Ultimate |
|--|---------|---------|---------|---------|----------|
| 1 Number of farms - total | 2,603 | 2,584 | 2,680 | 2,843 | 3,955 |
| 2 - irrigated farms | 1,445 | 1,500 | 1,835 | 2,026 | 3,770 |
| 3 - non-irrigated farms | 1,158 | 1,084 | 845 | 817 | 185 |
| 4 Land in farms - total (acres) | 619,584 | 582,779 | 676,109 | 672,802 | 600,000 |
| 5 - irrigated farms | 264,379 | 310,846 | 436,385 | 521,309 | 555,000 |
| 6 - non-irrigated farms | 355,205 | 271,933 | 239,724 | 151,493 | 45,000 |
| 7 Irrigated land in farms (acres) | 67,038 | 79,885 | 125,209 | 161,628 | 358,500 |
| 8 - % of land in farms | 10.8 | 13.7 | 18.5 | 24.0 | 59.8 |
| 9 - % land in irrigated farms | 25.4 | 25.7 | 28.7 | 31.0 | 64.6 |
| 10 - average per irrigated farm (acres) | 46.4 | 53.3 | 68.2 | 79.8 | 95.1 |
| 11 Average size of farm (acres) | 238.0 | 225.5 | 252.3 | 236.7 | 152 |
| 12 - irrigated farms | 183.0 | 207.2 | 237.8 | 257.3 | 147 |
| 13 - non-irrigated farms | 306.7 | 250.9 | 283.7 | 185.4 | 243 |
| 14 Farm population - total | 9,173 | 10,491 | 9,565 | | 15,820 |
| 15 - urban farm | 29 | 26 | 157 | | - |
| 16 - rural farm - total | 9,144 | 10,465 | 9,408 | | 15,820 |
| 17 - rural farm: average per farm | 3.51 | 4.05 | 3.51 | | 4.0 |
| 18 - % county population | 26.8 | 24.4 | 14.5 | | 5.6 |
| 19 - no. per 1,000 acres | 14.76 | 17.96 | 13.91 | | 26.4 |
| 20 Farm employment, April 1 - total | 4,451 | 3,052 | 3,582 | | 5,930 |
| 21 - % rural farm population | 48.7 | 29.2 | 38.1 | | 37.5 |
| 22 - % civilian employment | 31.57 | 23.7 | 16.8 | | 5.8 |
| 23 - no. per 1,000 acres | 7.18 | 5.23 | 5.30 | | 9.9 |
| 24 - average per farm | 1.71 | 1.18 | 1.34 | | 1.5 |

Note: 1930 employment is per old definition: "persons 10 years old and over engaged in gainful occupations."

RURAL FARM POPULATION AND EMPLOYMENT
NORTHEASTERN CALIFORNIA COUNTIES
1930-54 and Ultimate

| | | Colusa County | | | | |
|----|---|---------------|---------|---------|---------|----------|
| | | 1930 | 1940 | 1950 | 1954 | Ultimate |
| 1 | Number of farms - total | 894 | 730 | 813 | 746 | 2,580 |
| 2 | - irrigated farms | 359 | 400 | 530 | 533 | 2,350 |
| 3 | - non-irrigated farms | 535 | 330 | 283 | 213 | 230 |
| 4 | Land in farms - total (acres) | 481,604 | 437,030 | 532,915 | 597,968 | 600,000 |
| 5 | - irrigated farms | 120,004 | 196,771 | 346,489 | 443,732 | 530,000 |
| 6 | - non-irrigated farms | 361,600 | 240,259 | 186,426 | 154,236 | 70,000 |
| 7 | Irrigated land in farms (acres) | 58,369 | 82,890 | 97,347 | 138,929 | 375,900 |
| 8 | - % of land in farms | 12.1 | 19.0 | 18.3 | 23.2 | 62.7 |
| 9 | - % land in irrigated farms | 48.6 | 42.1 | 28.1 | 31.3 | 70.9 |
| 10 | - Average per irrigated farm (acres) | 162.6 | 207.2 | 183.7 | 260.7 | 160.0 |
| 11 | Average size of farm (acres) | 538.7 | 598.7 | 655.5 | 801.6 | 235 |
| 12 | - irrigated farms | 334.3 | 492.0 | 653.8 | 832.5 | 225 |
| 13 | - non-irrigated farms | 675.9 | 728.1 | 658.7 | 724.1 | 300 |
| 14 | Farm population - total | 4,394 | 3,781 | 2,919 | | 10,650 |
| 15 | - urban farm | - | - | 12 | | - |
| 16 | - rural farm - total | 4,394 | 3,781 | 2,907 | | 10,650 |
| 17 | - rural farm: average per farm | 4.91 | 5.18 | 3.58 | | 4.1 |
| 18 | - % county population | 42.8 | 38.6 | 25.0 | | 15.7 |
| 19 | - No. per 1,000 acres | 9.12 | 8.65 | 5.45 | | 17.7 |
| 20 | Farm employment, April 1 - total | 2,712 | 1,664 | 1,878 | | 5,830 |
| 21 | - % rural farm population | 61.7 | 44.0 | 64.6 | | 54.7 |
| 22 | - % civilian employment | 57.3 | 47.8 | 44.0 | | 22.0 |
| 23 | - No. per 1,000 acres | 5.63 | 3.81 | 3.52 | | 9.7 |
| 24 | - average per farm | 3.03 | 2.28 | 2.31 | | 2.3 |

Note: 1930 employment is per old definition: "persons 10 years old and over engaged in gainful occupations."

Table 57

RURAL FARM POPULATION AND EMPLOYMENT
NORTHEASTERN CALIFORNIA COUNTIES
1930-54 and Ultimate

| | | Glenn County | | | | |
|----|---|--------------|---------|---------|---------|----------|
| | | 1930 | 1940 | 1950 | 1954 | Ultimate |
| 1 | Number of farms - total | 1,463 | 1,376 | 1,527 | 1,538 | 4,000 |
| 2 | - irrigated farms | 997 | 1,061 | 1,292 | 1,318 | 3,700 |
| 3 | - non-irrigated farms | 466 | 315 | 235 | 220 | 300 |
| 4 | Land in farms - total (acres) | 586,411 | 541,555 | 611,865 | 703,043 | 620,000 |
| 5 | - irrigated farms | 185,392 | 258,807 | 387,450 | 411,049 | 515,000 |
| 6 | - non-irrigated farms | 401,019 | 282,748 | 224,415 | 291,994 | 105,000 |
| 7 | Irrigated land in farms (acres) | 60,306 | 101,557 | 102,557 | 136,511 | 333,400 |
| 8 | - % of land in farms | 10.3 | 18.8 | 16.8 | 19.4 | 53.8 |
| 9 | - % land in irrigated farms | 32.5 | 39.2 | 26.5 | 33.2 | 64.7 |
| 10 | - average per irrigated farm (acres) | 60.5 | 95.7 | 79.4 | 103.6 | 90.1 |
| 11 | Average size of farm (acres) | 400.8 | 393.6 | 400.7 | 457.1 | 155 |
| 12 | - irrigated farms | 185.9 | 243.9 | 299.9 | 311.9 | 140 |
| 13 | - non-irrigated farms | 860.6 | 897.6 | 955 | 1,327.2 | 350 |
| 14 | Farm population - total | 6,110 | 5,978 | 6,286 | | 16,000 |
| 15 | - urban farm | - | - | - | | - |
| 16 | - rural farm - total | 6,110 | 5,978 | 6,286 | | 16,000 |
| 17 | - rural farm: average per farm | 4.18 | 4.34 | 4.12 | | 4.00 |
| 18 | - % county population | 55.9 | 49.0 | 40.7 | | 18.8 |
| 19 | - no. per 1,000 acres | 10.42 | 11.04 | 10.27 | | 25.8 |
| 20 | Farm employment, April 1 - total | 2,573 | 2,144 | 2,517 | | 8,000 |
| 21 | - % rural farm population | 42.1 | 35.9 | 40.0 | | 50.0 |
| 22 | - % civilian employment | 55.3 | 50.9 | 43.0 | | 24.9 |
| 23 | - no. per 1,000 acres | 4.39 | 3.96 | 4.11 | | 12.9 |
| 24 | - average per farm | 1.76 | 1.56 | 1.65 | | 2.0 |

Note: 1930 employment is per old definition: "persons 10 years old and over engaged in gainful occupations."

RURAL FARM POPULATION AND EMPLOYMENT
NORTHEASTERN CALIFORNIA COUNTIES
1930-54 and Ultimate

| | | Lake County | | | | |
|----|---|-------------|---------|---------|---------|----------|
| | | 1930 | 1940 | 1950 | 1954 | Ultimate |
| 1 | Number of farms - total | 1,057 | 876 | 1,058 | 1,038 | 1,342 |
| 2 | - irrigated farms | 110 | 141 | 314 | 359 | 854 |
| 3 | - non-irrigated farms | 947 | 735 | 744 | 679 | 488 |
| 4 | Land in farms - total (acres) | 240,445 | 229,854 | 252,923 | 247,810 | 200,000 |
| 5 | - irrigated farms | 52,476 | 56,802 | 110,261 | 112,489 | 102,450 |
| 6 | - non-irrigated farms | 187,969 | 173,052 | 142,662 | 135,321 | 97,550 |
| 7 | Irrigated land in farms (acres) | 1,916 | 3,281 | 9,174 | 12,498 | 72,600 |
| 8 | - % of land in farms | 0.7 | 1.4 | 3.6 | 5.0 | 36.3 |
| 9 | - % land in irrigated farms | 3.7 | 5.8 | 8.3 | 11.1 | 70.9 |
| 10 | - average per irrigated farm (acres) | 17.4 | 23.3 | 29.2 | 34.8 | 85.0 |
| 11 | Average size of farm (acres) | 227.5 | 262.4 | 239.1 | 238.7 | 149. |
| 12 | - irrigated farms | 477.1 | 402.9 | 351.1 | 313.3 | 120 |
| 13 | - non-irrigated farms | 198.5 | 235.4 | 191.8 | 199.3 | 200 |
| 14 | Farm population - total | 3,027 | 2,997 | 2,824 | | 4,300 |
| 15 | - urban farm | - | - | - | | - |
| 16 | - rural farm - total | 3,027 | 2,997 | 2,824 | | 4,300 |
| 17 | - rural farm: average per farm | 2.86 | 3.42 | 2.67 | | 3.2 |
| 18 | - % county population | 42.2 | 37.1 | 24.6 | | 6.6 |
| 19 | - no. per 1,000 acres | 12.59 | 13.04 | 11.16 | | 21.5 |
| 20 | Farm employment, April 1 - Total | 1,352 | 915 | 1,125 | | 1,680 |
| 21 | - % rural farm population | 44.7 | 30.5 | 39.8 | | 39.1 |
| 22 | - % civilian employment | 46.2 | 35.6 | 28.5 | | 8.0 |
| 23 | - no. per 1,000 acres | 5.62 | 3.98 | 4.45 | | 8.4 |
| 24 | - average per farm | 1.28 | 1.04 | 1.06 | | 1.25 |

Note: 1930 employment is per old definition: "persons 10 years old and over engaged in gainful occupations."

RURAL FARM POPULATION AND EMPLOYMENT
NORTHEASTERN CALIFORNIA COUNTIES
1930-54 and Ultimate

| | | | | | Lassen County |
|---|---------|---------|---------|---------|---------------|
| | | | | | |
| | 1930 | 1940 | 1950 | 1954 | Ultimate |
| 1 Number of farms - total | 472 | 486 | 420 | 397 | 1,745 |
| 2 - irrigated farms | 241 | 301 | 211 | 232 | 1,545 |
| 3 - non-irrigated farms | 231 | 185 | 209 | 165 | 200 |
| 4 Land in farms - total (acres) | 473,268 | 606,335 | 682,086 | 672,795 | 1,000,000 |
| 5 - irrigated farms | 303,248 | 511,973 | 528,863 | 494,988 | 800,000 |
| 6 - non-irrigated farms | 170,020 | 94,362 | 153,223 | 177,807 | 200,000 |
| 7 Irrigated land in farms (acres) | 39,893 | 62,243 | 48,662 | 53,018 | 441,300 |
| 8 - % of land in farms | 8.4 | 10.3 | 7.1 | 7.9 | 44.1 |
| 9 - % land in irrigated farms | 13.2 | 12.2 | 9.2 | 10.7 | 55.2 |
| 10 - avg. per irrigated farm (acres) | 165.5 | 206.8 | 230.6 | 228.5 | 285.6 |
| 11 Average size of farm (acres) | 1,002.7 | 1,247.6 | 1,624.0 | 1,694.7 | 573 |
| 12 - irrigated farms | 1,258.3 | 1,700.9 | 2,506.5 | 2,133.6 | 518 |
| 13 - non-irrigated farms | 736.0 | 510.1 | 733.1 | 1,077.6 | 1,000 |
| 14 Farm population - total | 2,199 | 2,115 | 1,665 | | 7,850 |
| 15 - urban farm | - | - | 6 | | - |
| 16 - rural farm - total | 2,199 | 2,115 | 1,659 | | 7,850 |
| 17 - rural farm: avg. per farm | 4.66 | 4.35 | 3.95 | | 4.5 |
| 18 - % county population | 17.5 | 14.6 | 9.0 | | 11.6 |
| 19 - no. per 1,000 acres | 4.65 | 3.49 | 2.43 | | 7.8 |
| 20 Farm employment, April 1 - total | 987 | 760 | 644 | | 3,490 |
| 21 - % rural farm population | 44.9 | 35.9 | 38.8 | | 44.5 |
| 22 - % civilian employment | 16.2 | 13.9 | 9.8 | | 14.0 |
| 23 - no. per 1,000 acres | 2.08 | 1.25 | .94 | | 3.5 |
| 24 - average per farm | 2.09 | 1.56 | 1.53 | | 2.0 |

Note: 1930 employment is per old definition: "persons 10 years old and over engaged in gainful occupations."

Table 60

RURAL FARM POPULATION AND EMPLOYMENT
NORTHEASTERN CALIFORNIA COUNTIES
1930-54 and Ultimate

| | | County Modoc | | | | |
|----|---|--------------|---------|---------|---------|----------|
| | | 1930 | 1940 | 1950 | 1954 | Ultimate |
| 1 | Number of farms - total | 621 | 686 | 823 | 749 | 1,850 |
| 2 | - irrigated farms | 418 | 532 | 655 | 569 | 1,756 |
| 3 | - non-irrigated farms | 203 | 154 | 168 | 180 | 94 |
| 4 | Land in farms - total (acres) | 450,139 | 583,189 | 680,694 | 673,897 | 750,000 |
| 5 | - irrigated farms | 310,471 | 471,868 | 597,095 | 595,917 | 702,400 |
| 6 | - non-irrigated farms | 139,668 | 111,321 | 83,599 | 77,980 | 47,600 |
| 7 | Irrigated land in farms (acres) | 70,025 | 92,419 | 133,869 | 124,772 | 352,100 |
| 8 | - % of land in farms | 15.6 | 15.8 | 19.7 | 18.5 | 46.9 |
| 9 | - % land in irrigated farms | 22.6 | 19.6 | 22.4 | 20.9 | 50.1 |
| 10 | - average per irrigated farm (acres) | 167.5 | 173.7 | 204.4 | 219.3 | 200.5 |
| 11 | Average size of farm (acres) | 724.9 | 850.1 | 827.1 | 899.7 | 405.2 |
| 12 | - irrigated farms | 742.8 | 887.0 | 911.6 | 1,047.3 | 400 |
| 13 | - non-irrigated farms | 688.0 | 722.9 | 497.6 | 433.2 | 500 |
| 14 | Farm population - total | 2,762 | 3,048 | 3,068 | | 7,400 |
| 15 | - urban farm | - | - | 2 | | - |
| 16 | - rural farm - total | 2,762 | 3,048 | 3,066 | | 7,400 |
| 17 | - rural farm: average per farm | 4.45 | 4.44 | 3.72 | | 4.0 |
| 18 | - % county population | 34.4 | 35.0 | 31.7 | | 14.5 |
| 19 | - no. per 1,000 acres | 6.14 | 5.23 | 4.50 | | 9.9 |
| 20 | Farm employment, April 1 - total | 1,320 | 1,161 | 1,128 | | 2,775 |
| 21 | - % rural farm population | 47.8 | 38.1 | 36.8 | | 37.5 |
| 22 | - % civilian employment | 35.6 | 34.9 | 30.2 | | 15.0 |
| 23 | - no. per 1,000 acres | 2.93 | 1.99 | 1.66 | | 3.7 |
| 24 | - average per farm | 2.13 | 1.69 | 1.37 | | 1.5 |

Note: 1930 employment is per old definition: "persons 10 years old and over engaged in gainful occupations."

Table 61

RURAL FARM POPULATION AND EMPLOYMENT
NORTHEASTERN CALIFORNIA COUNTIES
1930-54 and Ultimate

| | | Plumas County | | | | |
|---|--------------------------------------|---------------|---------|---------|---------|----------|
| | | 1930 | 1940 | 1950 | 1954 | Ultimate |
| 1 | Number of farms - total | 178 | 167 | 159 | 151 | 400 |
| 2 | - irrigated farms | 119 | 130 | 100 | 95 | 375 |
| 3 | - non-irrigated farms | 59 | 37 | 59 | 56 | 25 |
| 4 | Land in farms - total (acres) | 167,446 | 160,513 | 150,621 | 164,004 | 200,000 |
| 5 | - irrigated farms | 98,666 | 145,510 | 114,822 | 127,000 | 180,000 |
| 6 | - non-irrigated farms | 68,780 | 15,003 | 35,799 | 37,004 | 20,000 |
| 7 | Irrigated land in farms (acres) | 16,774 | 29,481 | 24,516 | 22,001 | 107,900 |
| 8 | - % of land in farms | 10.0 | 18.4 | 16.3 | 13.4 | 54.0 |
| 9 | - % land in irrigated farms | 17.0 | 20.3 | 21.3 | 17.3 | 59.9 |
| 0 | - average per irrigated farm (acres) | 141.0 | 226.8 | 245.2 | 231.6 | 287.7 |
| 1 | Average size of farm (acres) | 940.7 | 961.2 | 947.3 | 1,086.1 | 500 |
| 2 | - irrigated farms | 829.1 | 1,119.3 | 1,148.2 | 1,336.8 | 480 |
| 3 | - non-irrigated farms | 1,165.7 | 405.5 | 606.8 | 660.8 | 800 |
| 4 | Farm population - total | 908 | 700 | 536 | | 1,500 |
| 5 | - urban farm | - | - | - | | - |
| 6 | - rural farm - total | 908 | 700 | 536 | | 1,500 |
| 7 | - rural farm; average per farm | 5.10 | 4.19 | 3.37 | | 3.75 |
| 8 | - % county population | 11.5 | 6.7 | 4.0 | | 3.4 |
| 9 | - no. per 1,000 acres | 5.42 | 4.36 | 3.56 | | 7.5 |
| 0 | Farm employment, April 1 - total | 385 | 281 | 187 | | 500 |
| 1 | - % rural farm population | 42.4 | 40.1 | 34.9 | | 33.3 |
| 2 | - % civilian employment | 8.8 | 6.3 | 3.7 | | 3.1 |
| 3 | - no. per 1,000 acres | 2.30 | 1.75 | 1.24 | | 2.5 |
| 4 | - average per farm | 2.16 | 1.68 | 1.18 | | 1.25 |

Note: 1930 employment is per old definition: "persons 10 years old and over engaged in gainful occupations."

Table 62

RURAL FARM POPULATION AND EMPLOYMENT
NORTHEASTERN CALIFORNIA COUNTIES
1930-54 and Ultimate

| | | Shasta County | | | | |
|----|---|---------------|---------|---------|---------|----------|
| | | 1930 | 1940 | 1950 | 1954 | Ultimate |
| 1 | Number of farms - total | 1,213 | 1,229 | 1,108 | 1,079 | 2,050 |
| 2 | - irrigated farms | 809 | 885 | 753 | 773 | 1,800 |
| 3 | - non-irrigated farms | 404 | 344 | 355 | 306 | 250 |
| 4 | Land in farms - total (acres) | 607,833 | 534,671 | 723,752 | 768,818 | 750,000 |
| 5 | - irrigated farms | 386,847 | 395,201 | 504,234 | 469,446 | 625,000 |
| 6 | - non-irrigated farms | 220,986 | 139,490 | 219,518 | 299,372 | 125,000 |
| 7 | Irrigated land in farms (acres) | 41,173 | 37,273 | 39,992 | 44,961 | 207,900 |
| 8 | - % of land in farms | 6.8 | 7.0 | 5.5 | 5.8 | 27.7 |
| 9 | - % land in irrigated farms | 10.6 | 9.4 | 7.9 | 9.6 | 33.3 |
| 10 | - average per irrigated farm (acres) | 50.9 | 42.1 | 53.1 | 58.2 | 115.5 |
| 11 | Average size of farm (acres) | 501.1 | 435.1 | 653.2 | 712.5 | 366 |
| 12 | - irrigated farms | 478.2 | 446.6 | 669.6 | 607.3 | 347 |
| 13 | - non-irrigated farms | 547.0 | 405.4 | 618.4 | 978.3 | 500 |
| 14 | Farm population - total | 4,447 | 5,163 | 4,116 | | 8,200 |
| 15 | - urban farm | 53 | 23 | 16 | | - |
| 16 | - rural farm - total | 4,394 | 5,140 | 4,100 | | 8,200 |
| 17 | - rural farm: average per farm | 3.62 | 4.18 | 3.70 | | 4.0 |
| 18 | - % county population | 31.6 | 17.8 | 11.3 | | 4.2 |
| 19 | - no. per 1,000 acres | 7.23 | 9.61 | 5.66 | | 10.9 |
| 20 | Farm employment, April 1 - total | 1,826 | 1,254 | 1,161 | | 2,460 |
| 21 | - % rural farm population | 41.6 | 24.4 | 28.3 | | 30.0 |
| 22 | - % civilian employment | 29.3 | 12.5 | 9.1 | | 3.5 |
| 23 | - no. per 1,000 acres | 3.00 | 2.34 | 1.60 | | 3.3 |
| 24 | - average per farm | 1.50 | 1.02 | 1.05 | | 1.2 |

Note: 1930 employment is per old definition: "persons 10 years old and over engaged in gainful occupations."

RURAL FARM POPULATION AND EMPLOYMENT
NORTHEASTERN CALIFORNIA COUNTIES
1930-54 and Ultimate

| | | Sierra County | | | | |
|----|---|---------------|--------|---------|---------|----------|
| | | 1930 | 1940 | 1950 | 1954 | Ultimate |
| 1 | Number of farms - total | 92 | 86 | 69 | 66 | 280 |
| 2 | - irrigated farms | 54 | 65 | 49 | 44 | 250 |
| 3 | - non-irrigated farms | 38 | 21 | 20 | 22 | 30 |
| 4 | Land in farms - total (acres) | 119,579 | 60,105 | 83,535 | 92,477 | 100,000 |
| 5 | - irrigated farms | 53,340 | 46,872 | 54,924 | 77,199 | 83,000 |
| 6 | - non-irrigated farms | 66,239 | 13,233 | 28,611 | 15,278 | 17,000 |
| 7 | Irrigated land in farms (acres) | 9,104 | 7,307 | 16,682 | 14,201 | 49,100 |
| 8 | - % of land in farms | 7.6 | 12.2 | 20.0 | 15.3 | 49.1 |
| 9 | - % land in irrigated farms | 17.1 | 15.6 | 30.4 | 18.4 | 59.2 |
| 10 | - average per irrigated farm (acres) | 168.6 | 112.4 | 340.4 | 1,322.7 | 196.4 |
| 11 | Average size of farm (acres) | 1,299.8 | 698.9 | 1,210.7 | 1,401.2 | 357 |
| 12 | - irrigated farms | 987.8 | 721.1 | 1,120.9 | 1,754.5 | 333 |
| 13 | - non-irrigated farms | 1,743.1 | 630.1 | 1,430.6 | 694.4 | 550 |
| 14 | Farm population total | 265 | 306 | 205 | | 850 |
| 15 | - urban farm | - | - | - | | - |
| 16 | - rural farm - total | 265 | 306 | 205 | | 850 |
| 17 | - rural farm; average per farm | 2.88 | 3.56 | 2.97 | | 3.0 |
| 18 | - % county population | 10.9 | 10.1 | 8.4 | | 5.3 |
| 19 | - no. per 1,000 acres | 2.22 | 5.09 | 2.45 | | 8.5 |
| 20 | Farm employment, April 1 - total | 136 | 110 | 67 | | 300 |
| 21 | - % rural farm population | 51.3 | 35.9 | 32.7 | | 35.3 |
| 22 | - % civilian employment | 10.7 | 8.5 | 8.4 | | 5.2 |
| 23 | - no. per 1,000 acres | 1.14 | 1.83 | .80 | | 3.0 |
| 24 | - average per farm | 1.48 | 1.28 | .97 | | 1.1 |

Note: 1930 employment is per old definition: "persons 10 years old and over engaged in gainful occupations."

RURAL FARM POPULATION AND EMPLOYMENT
NORTHEASTERN CALIFORNIA COUNTIES
1930-54 and Ultimate

| | | Siskiyou County | | | | |
|----|---|-----------------|---------|---------|---------|----------|
| | | 1930 | 1940 | 1950 | 1954 | Ultimate |
| 1 | Number of farms - total | 1,155 | 1,208 | 1,000 | 970 | 2,344 |
| 2 | - irrigated farms | 744 | 915 | 681 | 698 | 2,144 |
| 3 | - non-irrigated farms | 411 | 293 | 319 | 272 | 200 |
| 4 | Land in farms - total (acres) | 627,704 | 699,496 | 879,904 | 961,344 | 950,000 |
| 5 | - irrigated farms | 415,855 | 589,742 | 653,121 | 735,577 | 850,000 |
| 6 | - non-irrigated farms | 211,849 | 109,754 | 226,783 | 225,767 | 100,000 |
| 7 | Irrigated land in farms (acres) | 58,655 | 91,783 | 100,525 | 93,552 | 343,200 |
| 8 | - % of land in farms | 9.3 | 13.1 | 11.4 | 9.7 | 36.1 |
| 9 | - % land in irrigated farms | 14.1 | 15.6 | 15.4 | 12.7 | 40.4 |
| 10 | - average per irrigated farm (acres) | 78.8 | 100.3 | 147.6 | 134.0 | 160.0 |
| 11 | Average size of farm (acres) | 543.5 | 579.1 | 879.9 | 991.1 | 405 |
| 12 | - irrigated farms | 558.9 | 644.5 | 959.1 | 1,053.8 | 400 |
| 13 | - non-irrigated farms | 515.4 | 374.6 | 710.9 | 830.0 | 500 |
| 14 | Farm population - total | 5,355 | 5,463 | 4,371 | | 9,870 |
| 15 | - urban farm | - | - | 12 | | - |
| 16 | - rural farm - total | 5,355 | 5,463 | 4,359 | | 9,870 |
| 17 | - rural farm: average per farm | 4.64 | 4.52 | 4.36 | | 4.2 |
| 18 | - % county population | 21.0 | 19.1 | 14.2 | | 7.8 |
| 19 | - no. per 1,000 acres | 8.53 | 7.81 | 4.95 | | 10.4 |
| 20 | Farm employment, April 1 - total | 2,190 | 1,900 | 1,484 | | 3,920 |
| 21 | - % rural farm population | 40.9 | 34.8 | 34.0 | | 39.8 |
| 22 | - % civilian employment | 19.3 | 17.0 | 12.7 | | 8.5 |
| 23 | - no. per 1,000 acres | 3.49 | 2.72 | 1.69 | | 4.1 |
| 24 | - average per farm | 1.90 | 1.57 | 1.48 | | 1.7 |

Note: 1930 employment is per old definition: "persons 10 years old and over engaged in gainful occupations."

RURAL FARM POPULATION AND EMPLOYMENT
NORTHEASTERN CALIFORNIA COUNTIES
1930-54 and Ultimate

Sutter County

| | | 1930 | 1940 | 1950 | 1954 | Ultimate |
|----|---|---------|---------|---------|---------|----------|
| 1 | Number of farms - total | 1,758 | 1,425 | 1,807 | 1,787 | 2,595 |
| 2 | - irrigated farms | 1,257 | 1,084 | 1,527 | 1,532 | 2,570 |
| 3 | - non-irrigated farms | 501 | 341 | 280 | 255 | 25 |
| 4 | Land in farms - total (acres) | 343,654 | 317,113 | 372,192 | 369,349 | 365,000 |
| 5 | - irrigated farms | 185,410 | 230,610 | 312,236 | 321,420 | 360,000 |
| 6 | - non-irrigated farms | 158,244 | 86,503 | 59,956 | 47,929 | 5,000 |
| 7 | Irrigated land in farms (acres) | 98,771 | 102,119 | 168,868 | 192,534 | 291,800 |
| 8 | - % of land in farms | 28.7 | 32.2 | 45.4 | 52.1 | 79.9 |
| 9 | - % land in irrigated farms | 53.3 | 44.3 | 54.1 | 59.9 | 81.1 |
| 10 | - average per irrigated farm (acres) | 78.6 | 94.2 | 110.6 | 125.7 | 113.5 |
| 11 | Average size of farm (acres) | 195.5 | 222.5 | 206.0 | 206.7 | 141 |
| 12 | - irrigated farms | 147.5 | 212.7 | 204.5 | 209.8 | 140 |
| 13 | - non-irrigated farms | 315.9 | 253.7 | 214.1 | 188.0 | 200 |
| 14 | Farm population - total | 8,158 | 8,179 | 8,735 | | 12,450 |
| 15 | - urban farm | 70 | 45 | 11 | | - |
| 16 | - rural farm - total | 8,088 | 8,134 | 8,724 | | 12,450 |
| 17 | - rural farm: average per farm | 4.60 | 5.71 | 4.83 | | 4.8 |
| 18 | - % county population | 55.3 | 43.5 | 33.2 | | 10.2 |
| 19 | - no. per 1,000 acres | 23.53 | 25.65 | 23.44 | | 34.1 |
| 20 | Farm employment, April 1, total | 4,285 | 2,848 | 3,457 | | 5,190 |
| 21 | - % rural farm population | 53.0 | 35.0 | 39.6 | | 41.7 |
| 22 | - % civilian employment | 65.3 | 49.7 | 38.7 | | 11.0 |
| 23 | - no. per 1,000 acres | 12.47 | 8.98 | 9.29 | | 14.2 |
| 24 | - average per farm | 2.44 | 2.00 | 1.91 | | 2.0 |

Note: 1930 employment is per old definition: "persons 10 years old and over engaged in gainful occupations."

RURAL FARM POPULATION AND EMPLOYMENT
NORTHEASTERN CALIFORNIA COUNTIES
1930-54 and Ultimate

| | | Tehama County | | | | |
|----|---|---------------|-----------|-----------|-----------|-----------|
| | | 1930 | 1940 | 1950 | 1954 | Ultimate |
| 1 | Number of farms - total | 1,805 | 1,744 | 1,718 | 1,707 | 2,760 |
| 2 | - irrigated farms | 953 | 981 | 1,141 | 1,280 | 2,560 |
| 3 | - non-irrigated farms | 852 | 763 | 577 | 427 | 200 |
| 4 | Land in farms - total (acres) | 1,195,796 | 1,227,205 | 1,131,660 | 1,161,699 | 1,100,000 |
| 5 | - irrigated farms | 394,095 | 447,830 | 323,606 | 598,908 | 920,000 |
| 6 | -non-irrigated farms | 801,701 | 779,375 | 808,054 | 562,791 | 180,000 |
| 7 | Irrigated land in farms (acres) | 32,110 | 34,453 | 38,440 | 50,766 | 297,200 |
| 8 | - % of land in farms | 2.7 | 2.8 | 3.4 | 4.4 | 27.0 |
| 9 | - % land in irrigated farms | 8.1 | 7.7 | 11.9 | 8.5 | 32.3 |
| 10 | - average per irrigated farm (acres) | 33.7 | 35.1 | 33.7 | 39.7 | 116.1 |
| 11 | Average size of farm (acres) | 662.5 | 703.7 | 658.7 | 680.6 | 399 |
| 12 | - irrigated farms | 413.5 | 456.5 | 283.6 | 467.9 | 359 |
| 13 | - non-irrigated farms | 941.0 | 1,021.5 | 1,400.4 | 1,318.0 | 900 |
| 14 | Farm population - total | 6,764 | 6,843 | 6,433 | | 11,000 |
| 15 | - urban farm | - | 8 | 120 | | - |
| 16 | - rural farm - total | 6,764 | 6,835 | 6,313 | | 11,000 |
| 17 | - rural farm: average per farm | 3.75 | 3.92 | 3.67 | | 4.0 |
| 18 | - % county population | 48.8 | 47.7 | 32.7 | | 10.5 |
| 19 | - no. per 1,000 acres | 5.66 | 5.57 | 5.58 | | 10.0 |
| 20 | Farm employment, April 1, total | 2,746 | 1,963 | 1,967 | | 3,310 |
| 21 | - % rural farm population | 40.6 | 28.7 | 31.1 | | 30.1 |
| 22 | - % civilian employment | 48.0 | 40.9 | 28.3 | | 9.0 |
| 23 | - no. per 1,000 acres | 2.30 | 1.60 | 1.74 | | 3.0 |
| 24 | - average per farm | 1.52 | 1.12 | 1.14 | | 1.2 |

Note: 1930 employment is per old definition: "persons 10 years old and over engaged in gainful occupations."

Table 67

RURAL FARM POPULATION AND EMPLOYMENT
NORTHEASTERN CALIFORNIA COUNTIES
1930-54 and Ultimate

| | | Trinity County | | | | |
|---|---|----------------|---------|---------|---------|----------|
| | | 1930 | 1940 | 1950 | 1954 | Ultimate |
| 1 | Number of farms - total | 325 | 329 | 238 | 215 | 230 |
| 2 | - irrigated farms | 193 | 199 | 104 | 119 | 180 |
| 3 | - non-irrigated farms | 132 | 130 | 134 | 96 | 50 |
| 4 | Land in farms - total (acres) | 184,523 | 186,445 | 195,862 | 186,898 | 125,000 |
| 5 | - irrigated farms | 46,553 | 57,688 | 92,691 | 106,677 | 90,000 |
| 6 | - non-irrigated farms | 137,970 | 128,757 | 103,171 | 80,221 | 35,000 |
| 7 | Irrigated land in farms (acres) | 5,263 | 4,753 | 3,734 | 3,664 | 16,700 |
| 8 | - % of land in farms | 2.9 | 2.5 | 1.9 | 2.0 | 13.4 |
| 9 | - % land in irrigated farms | 11.3 | 8.2 | 4.0 | 3.4 | 18.6 |
| 0 | - average per irrigated farm (acres) | 27.3 | 23.9 | 35.9 | 30.8 | 92.8 |
| 1 | Average size of farm (acres) | 567.8 | 566.7 | 822.9 | 869.3 | 544 |
| 2 | - irrigated farms | 241.2 | 289.9 | 891.3 | 896.4 | 500 |
| 3 | - non-irrigated farms | 1,045.2 | 990.4 | 769.9 | 835.6 | 700 |
| 4 | Farm population - total | 1,191 | 1,175 | 688 | | 700 |
| 5 | - urban farm | - | - | - | | - |
| 6 | - rural farm - total | 1,191 | 1,175 | 688 | | 700 |
| 7 | - rural farm: average per farm | 3.66 | 3.57 | 2.89 | | 3.0 |
| 8 | - % county population | 42.4 | 29.6 | 13.5 | | 3.2 |
| 9 | - no. per 1,000 acres | 6.45 | 6.30 | 3.51 | | 5.6 |
| 0 | Farm employment, April 1 - total | 452 | 303 | 227 | | 208 |
| 1 | - % rural farm population | 38.0 | 25.8 | 33.0 | | 29.7 |
| 2 | - % civilian employment | 40.3 | 21.8 | 12.9 | | 2.6 |
| 3 | - no. per 1,000 acres | 2.45 | 1.62 | 1.16 | | 1.7 |
| 4 | - average per farm | 1.39 | .92 | .95 | | .9 |

Note: 1930 employment is per old definition: "persons 10 years old and over engaged in gainful occupations."

RURAL FARM POPULATION AND EMPLOYMENT
NORTHEASTERN CALIFORNIA COUNTIES
1930-54 and Ultimate

| | | County - Year | | | | |
|----|---|---------------|---------|---------|---------|----------|
| | | 1930 | 1940 | 1950 | 1954 | Ultimate |
| 1 | Number of farms - total | 1,641 | 1,339 | 1,263 | 1,158 | 3,430 |
| 2 | - irrigated farms | 820 | 868 | 860 | 825 | 3,200 |
| 3 | - non-irrigated farms | 821 | 471 | 403 | 333 | 230 |
| 4 | Land in farms - total (acres) | 488,252 | 477,258 | 509,630 | 580,153 | 580,000 |
| 5 | - irrigated farms | 214,548 | 268,521 | 356,038 | 467,764 | 512,000 |
| 6 | - non-irrigated farms | 273,704 | 208,737 | 153,592 | 112,389 | 68,000 |
| 7 | Irrigated land in farms (acres) | 84,856 | 115,301 | 139,483 | 172,218 | 387,800 |
| 8 | - % of land in farms | 17.4 | 24.2 | 27.4 | 29.7 | 66.9 |
| 9 | - % land in irrigated farms | 39.6 | 42.9 | 39.2 | 36.8 | 75.7 |
| 10 | - average per irrigated farm (acres) | 103.5 | 132.8 | 162.1 | 208.7 | 121.2 |
| 11 | Average size of farm (acres) | 297.5 | 356.4 | 403.5 | 501.0 | 169 |
| 12 | - irrigated farms | 261.6 | 309.4 | 414 | 567.0 | 160 |
| 13 | - non-irrigated farms | 333.4 | 443.2 | 381.1 | 337.5 | 296 |
| 14 | Farm population - total | 8,814 | 9,100 | 6,861 | | 16,000 |
| 15 | - urban farm | 94 | 18 | 82 | | - |
| 16 | - rural farm - total | 8,720 | 9,082 | 6,779 | | 16,000 |
| 17 | - rural farm: average per farm | 5.31 | 6.78 | 5.37 | | 4.7 |
| 18 | - % county population | 36.9 | 33.3 | 16.7 | | 4.1 |
| 19 | - no. per 1,000 acres | 17.86 | 19.03 | 13.30 | | 27.6 |
| 20 | Farm employment, April 1 - total | 6,061 | 4,224 | 4,728 | | 9,250 |
| 21 | - % rural farm population | 69.5 | 46.5 | 69.7 | | 57.8 |
| 22 | - % civilian employment | 54.5 | 43.3 | 31.4 | | 6.3 |
| 23 | - no. per 1,000 acres | 12.41 | 8.85 | 9.28 | | 15.9 |
| 24 | - average per farm | 3.69 | 3.15 | 3.74 | | 2.7 |

Note: 1930 employment is per old definition: "persons 10 years old and over engaged in gainful occupations."

RURAL FARM POPULATION AND EMPLOYMENT
NORTHEASTERN CALIFORNIA COUNTIES
1930-54 and Ultimate

| | | Yuba County | | | | |
|----|---------------------------|-------------|---------|---------|---------|----------|
| | | 1930 | 1940 | 1950 | 1954 | Ultimate |
| 1 | Number of farms - total | 548 | 562 | 692 | 804 | 1,325 |
| 2 | - irrigated farms | 335 | 370 | 466 | 582 | 1,250 |
| 3 | - non-irrigated farms | 213 | 192 | 226 | 222 | 75 |
| 4 | Land in farms - total (a) | | | | | |
| | (acres) | 260,186 | 213,032 | 231,266 | 254,926 | 215,000 |
| 5 | - irrigated farms | 147,076 | 98,207 | 154,463 | 218,086 | 200,000 |
| 6 | - non-irrigated farms | 113,110 | 114,825 | 76,803 | 36,840 | 15,000 |
| 7 | Irrigated land in farms | | | | | |
| | (acres) | 30,248 | 24,538 | 36,310 | 56,810 | 168,500 |
| 8 | - % of land in farms | 11.6 | 11.5 | 15.7 | 22.3 | 78.4 |
| 9 | - % land in irrigated | | | | | |
| | farms | 20.6 | 25.0 | 23.5 | 26.0 | 84.3 |
| 10 | - average per irrigated | | | | | |
| | farm (acres) | 90.3 | 66.3 | 77.9 | 97.6 | 134.8 |
| 11 | Average size of farm | | | | | |
| | (acres) | 474.8 | 379.1 | 334.2 | 317.1 | 162 |
| 12 | - irrigated farms | 439.0 | 265.4 | 331.5 | 374.7 | 160 |
| 13 | -non-irrigated farms | 531.0 | 598.0 | 339.8 | 165.9 | 200 |
| 14 | Farm population - | | | | | |
| | total | 2,591 | 2,749 | 3,320 | | 5,960 |
| 15 | - urban farm | 134 | 3 | 181 | | - |
| 16 | - rural farm - total | 2,457 | 2,746 | 3,139 | | 5,960 |
| 17 | - rural farm: average | | | | | |
| | per farm | 4.48 | 4.89 | 4.54 | | 4.5 |
| 18 | - % county population | 21.7 | 16.1 | 12.8 | | 5.7 |
| 19 | - no. per 1,000 acres | 9.44 | 12.89 | 13.57 | | 27.7 |
| 20 | Farm employment, | | | | | |
| | April 1 - total | 1,898 | 1,126 | 1,264 | | 2,265 |
| 21 | - % rural farm population | 77.2 | 41.0 | 40.2 | | 38.0 |
| 22 | - % civilian employment | 35.2 | 20.8 | 16.7 | | 6.0 |
| 23 | - no. per 1,000 acres | 7.29 | 5.28 | 5.47 | | 10.5 |
| 24 | - average per farm | 3.46 | 2.00 | 1.83 | | 1.7 |

Note: 1930 employment is per old definition: "persons 10 years old and over engaged in gainful occupations."

PART TWO

POTENTIAL ULTIMATE RECREATION DEVELOPMENT IN
CALIFORNIA'S NORTHEASTERN COUNTIES, PREDICATED
UPON FULL DEVELOPMENT OF NATURAL RESOURCES

I. INTRODUCTION

The northeastern part of the State of California has an exceedingly colorful history woven from its streams and rivers, gold and silver mines and vast stands of pine and fir. Indians, Chinese, and Yankees, miners, woodsmen, trappers and cattlemen all have played a part in the fascinating drama of "Superior" California. The Chinese temple in Weaverville, the lava trenches of the Modoc War, Susanville's Fort Defiance, are historic reminders of this not so distant past.

Historical romance intrigues the historian and the tourist, but the modern-day resident of the area - the farmer, the lumber mill worker, the government employee, the small entrepreneur cannot live on the memories of the past. The economic life of individuals and business operations depends upon a stable, prosperous future. Declining economies in a number of the counties within this area indicate a need to evaluate the potential return from full development of the natural resources of the area.

Recreation: a new "industry"

Historically, the economic life of the northern mountain counties has consisted of timber, mining and agricultural operations and related service industries. In recent years, however, recreation activity has increased rapidly.

to a position of major importance in the region's economy. There is now every reason to believe that its future volume will surpass the visions of the far-sighted men who some time ago formed the Shasta-Cascade Wonderland Association to inform the world of the resources of the northeastern mountain counties.

It appears evident the northeastern counties are on the threshold of enormous growth in the development and use of their recreation resources. These counties have some of the finest mountain country in the state. All or parts of eight national forests are included in their boundaries, plus one national park and one national monument. The pressure of population upon the older, more developed recreation areas of the state is sending more people into the northeastern counties already each year in search of recreation opportunities.

Recent increases in recreation use

Forest Service records show that in 1955 there were 8,351,600 visitor-days use of national forest recreation areas in the northeastern counties, compared with 2,958,500 only five years earlier. This increase of 182 percent in recreation use occurred during a period when state population was increasing 23 percent, and population of the northeastern county area increased only 10 percent. Thus it is clear that per capita use was increasing substantially.

This increase in recreation use reflects an increasing national propensity to spend more time in leisure and recreation activities. It has been estimated by the National Association of Travel Organizations that tourists in the United States in 1955 spent \$24,000,000,000 for recreation purposes, or about 7-1/2 percent of the national income. Recreation visits to the national parks and national forests in 1955 totalled 96,000,000, an increase of 140 percent over 1946. On a per capita basis, recreation visits more than doubled between 1946 and 1955 (U.S. Forest Service, Operation Outdoors, 1957).

In California, visitor-days use of the national parks and national forests increased from 23,085,000 in 1946 to 35,614,000 in 1955, an increase of 54 percent. State population increased 36 percent during this period.

Prospect of accelerated development

Present development of hotels, resorts, campgrounds and other facilities in the northeastern counties is relatively low. Despite the historic antiquity of the area, exploitation of its recreation resources is in its early stages. Thus the rate of development from this time forward to probable ultimate development can be expected to be very rapid, and to exceed the rate of state population growth by a considerable degree. Thus, although state population is expected to increase three or more times between now and ultimate development, recreation use of the northeastern county area may increase by 10 times or more.

Existing developed recreation facilities in the state and in the nation generally are inadequate to meet present demand, and a large "catching up" process in construction of facilities is urgently needed. For example, camp and picnic grounds in the national forests in 1955 had a safe, convenient and healthful capacity of about 17,600,000 visitor-days. Actual use was 25,500,000 visitor-days - an overload of 45 percent! At the rate of construction permitted by funds now available, the overload is expected to increase to 61 percent by 1958.

Comparable conditions are known to exist in the national forests and national parks in California. The State Park Commission has stated conservatively that "during the past several years, the demand for camp and picnicking sites has far exceeded the supply, and this will undoubtedly continue for some time in the future." (California State Park System, Five Year Master Plan, March 1, 1956).

Per capita use of outdoor recreation facilities will increase rapidly under the stimulation of higher incomes, a shorter work-week, longer vacations, improved transportation, and other benefits of an expanding technology. From 1950 to 1955 visitor-days in the National

RECREATION USE OF NATIONAL FORESTS IN CALIFORNIA

In visitor days per capita*

Projection of 1950-55 trend

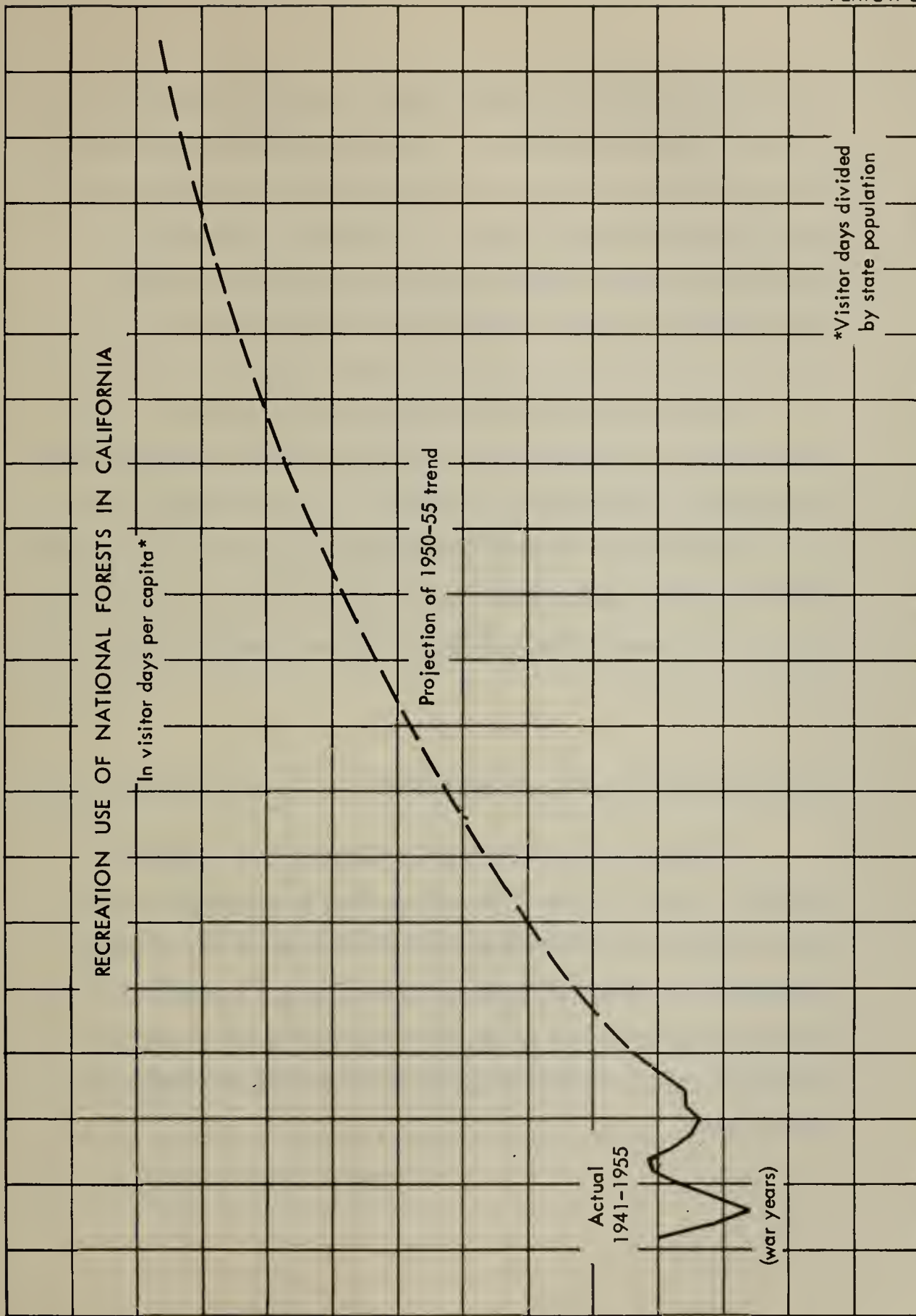
Actual
1941-1955

(war years)

*Visitor days divided
by state population

VISITOR
DAYS
PER
CAPITA

1940 1945 1950 1955 1960 1965 1970 1975 1980 1985 1990 1995 2000 2005 2010 2015 2020 2025 2030



forests and National parks in California has increased from 1.6 per capita to 2.7 per capita, an annual increase of 0.2. One hundred years hence at this rate of increase, the per capita user days would exceed 20. Therefore, it may be conservatively estimated that annual use of California's national parks and national forests, now about three visitor-days per resident, will ultimately increase to something on the order of 10 visitor-days per year, or even more.

The projections set forth in the first part of this report indicate a state population, as of the period of probable ultimate development (2020-2050), of 45,000,000. On this basis, visitor-days use of national forests and national parks in California might approximate 450,000,000 - compared with an estimated 35,600,000 in 1955. (These estimates do not include visitor-days use of private resorts and other types of private recreation facilities, outside the national parks and national forests.)

Recreation use capacity of N. E. County Area

The survey of potential recreation areas described in the following pages indicates that the northeastern counties alone have the potential area and resources to accommodate this gross volume of recreation use, given the development of necessary public and private facilities. It is probable that actual use of recreation areas in the northeastern counties will be somewhat less than the capacity use estimated in this report, but will nevertheless be very substantial.

The water resources development projects proposed in the California Water Plan would contribute substantially to the achievement of such levels of recreation activity, as discussed below.

(If a state-wide inventory of potential recreation areas were available, which employed classifications and standards similar to those used in this survey of the northeastern counties, it would be possible to estimate with some precision how much of the state total of outdoor recreation activity might be accounted for by the northeastern counties. Lacking such inventory, it may be estimated very roughly that the northeastern county share of future outdoor recreation activity in the state may approximate one-third of the state total. It may be noted that the northeastern counties have 37 percent of the forested lands of the state. On the other hand, being inland counties they cannot provide the attractions of the "seashore.")

Foothill residential areas

The recreation use foreseen in this report includes the activities of the vacationer and tourist, the hunter and the fisherman. It also includes the establishment of permanent and summer homes by persons in retirement or semi-retirement, or having their place of work or business elsewhere, who are attracted to the area by its resources for relaxed, healthful living and immediate access to mountain recreation areas. The town of Paradise in Butte County is an example of this kind of development, which is expected to be duplicated in many parts of the area at elevations of 1,000 to 3,000 feet.

Professor David Weeks, who has done a number of studies of the Sierra foothills, believes there are very good prospects for clusters of population in the high foothills, around the 3,000-foot level. These are areas which also have a high potential, according to Weeks and others, for agricultural use with sprinkler irrigation, thus providing additional support for communities whose economic base will largely rest on services to residents.

II. CLASSIFICATION AND MEASUREMENT OF RECREATION AREAS

In order to estimate the potential recreational use of the mountains, lakes, reservoirs and streams of the northeastern county area, it was necessary to develop assumptions and standards for classifying and measuring areas deemed suitable for development.

These standards are shown in Table 1. (following page 153).

The preparation of these standards followed review of existing recreation studies prepared by the National Park Service, the United States Forest Service and the State Division of Beaches and Parks and discussion with officials of these agencies.

In the application of these standards to each county, great reliance was placed on the experience and judgment of local officials and private citizens who knew the area intimately and who could delineate on maps the forests, lakes, streams and other features having existing or potential recreational value.

A survey of each county was made by air, accompanied by an experienced official, usually a Forest Ranger. Large areas of each county were also visited by automobile.

Classification of recreation areas

To describe the characteristics of potential recreation areas in some detail, some 22 area classifications were used. For each of these classifications,

assumptions were made as to how much of the area could be developed (ranging from five to 60 percent), and what proportion of the developed areas was suitable for each of four types of major recreation facility: recreation residences, resorts, camping and picnic grounds, and organizational camps.

Density standards were also established for each type of recreation facility.

To illustrate: The R-1 classification in Table 1 includes areas which are usable for an average distance of one-half mile on each side of a stream or 640 acres per lineal mile of stream; it is assumed that 50 percent of such area is suitable for intensive development; it is further assumed that on the average the total developable area in an R-1 classification can be allocated as follows:

- 50 percent in recreation residences, at a density of one per acre;
- 30 percent in resort development, at a density of one unit per 15 acres;
- 20 percent in camp and picnic grounds, at a density of 2 family units per acre.

Area characteristics

Characteristics of each of the 22 area classifications are as follows:

RECREATION AREA CLASSIFICATIONS

General Characteristics

- | | |
|-------|--|
| R-1 | Major rivers readily accessible to motor vehicles, having scenic, climatic, topographic, location and other resource values which will attract public and private recreation developments. |
| R-2 | Rivers and major tributaries accessible to motor vehicles as for R-1. Often have considerable fluctuation in usable valley width and steepness of canyon walls. |
| R-3 | Small rivers and tributaries accessible to motor vehicles as for R-1. Generally have steeper fall and intermittent flats and meadows. |
| R-4 | Tributaries and streams accessible to motor vehicles as for R-1. Generally have steeper fall and intermittent flats and meadows. |
| R-1-R | Reservoirs readily accessible to motor vehicles, having scenic, climatic, topographic, location and other resource values which will attract public and private recreation developments. |
| R-2-R | Reservoirs accessible to motor vehicles as for R-1-R. Often have considerable fluctuation in usable valley width and steepness of canyon walls. |
| R-3-R | Reservoirs accessible to motor vehicles as for R-1. Generally have steeper fall and intermittent flats and meadows. |
| R-4-R | Reservoirs accessible to motor vehicles as for R-1. Generally have steeper fall and intermittent flats and meadows. |

- S-1 Major streams and tributaries in part inaccessible to motor vehicles also having scenic, climatic, topographic and location and other resource values which will attract public and private recreation development.
- S-2 Streams and tributaries in part inaccessible to motor vehicles, also having scenic, climatic, topographic and location and other resource values which will attract public and private recreation development.
- S-3 Medium to small streams in part inaccessible to motor vehicles, also having scenic, climatic, topographic and location and other resource values which will attract public and private recreation development.
- S-4 Small streams largely inaccessible to motor vehicles also having scenic, climatic, topographic and location and other resource values which will attract public and private recreation development.
- P-1 Primitive and wild areas of 200,000 acres or more preserved in natural state for camping, hiking, scientific study, fishing, etc.
- P-2 Primitive and wild areas of less than 200,000 acres and suitable for more intensive use.
- L-1 Lake areas inaccessible to motor vehicles.
- L-2 Lake areas accessible to motor vehicles.

- RA-1 Desirable middle to high altitude areas of conifers, meadows, and rock out-croppings suitable for fishing, hunting, camping and hiking, etc. and generally inaccessible to motor vehicles.
- RA-2 Desirable middle altitude areas of mixed conifers, aspen, streams, meadows, gentle topography.
- RA-3 Juniper-sage plateau, some pine, bitterroot, grassland, suitable for some fishing and hunting.
- H-1 Desirable major highway frontage where not included in other series, having scenic, topographic, location and other resource values; with primary emphasis on commercial development.
- H-2 Less desirable major highway frontage where not included in other series, having some scenic, topographic, location and other resource values with primary emphasis on commercial development.
- W Wildlife - waterfowl.

For presentation on maps, the 22 classifications were summarized in three groups, designated by the colors, "blue, green and brown" (see Table 1). These groupings may be described as follows:

Blue: Areas of prime recreation potential readily accessible by motor vehicle during the entire vacation season.

Green: Areas of prime recreation potential not readily accessible by motor vehicle. This may include some areas accessible by jeep.

Yellow: Accessible areas having limited recreation potential such as the wide juniper sage plateau of the Lahontan Basin, the dry ranges of the Eastern Cascade slope, and the middle altitude mesquite and manzanita forest. This includes wildlife areas. Primary recreation uses are hunting and fishing.

Lands adjacent to present urban centers, or areas likely to become urban and suburban in character have also been designated. Their estimated acreages by county are shown in Table 2. For mapping purposes they are shown in red.

Urban and suburban areas are expected to contain a large number of residences of persons moving into the northeastern county area because of its attractions for living.

Recreation facility classification

Within the classifications of recreation land shown in Table 1, it is assumed that there would be four major types of facilities to make the areas usable for public recreation. These are:

Permanent and summer homes (recreation residences)

Commercial Recreation Uses (resorts, hotels, motels, restaurants, dude ranches, pack stations, etc.)

Campgrounds and picnic areas

Organizational camps

1. Permanent and summer homes.

According to demands for summer home sites within the United States National Forests, there will be an increasing trend for families to build summer and second homes in their favorite vacation areas. In addition, earlier retirement and longer lives are encouraging the construction of homes in desirable living areas previously considered financially impractical. There is also a tendency for families to move to the countryside to live on small farms with incomes supplemented by jobs in nearby urban centers.

2. Commercial recreation uses.

Commercial recreation uses, such as resorts, hotels, motels, restaurants, dude ranches, pack stations and related business activities. Almost

every public recreation area attracts service establishments patronized by vacationers. Other recreation areas are developed and served entirely by private business establishments; recreation is their means of livelihood.

3. Campgrounds and picnic areas.

These areas vary from roadside rests and camps providing urban conveniences for the motoring tourist to the inaccessible wilderness and timberline bivouacs reserved for those who are able to find them on foot or horseback.

4. Organizational camps.

Outing and camping programs for youths, adults, and families have increased so rapidly that today many California cities operate extensive facilities to serve their residents. Private summer camps for boys and girls and the wide camping programs sponsored by service organizations have exceeded the capacity of existing facilities in all parts of the state.

County totals of potential recreation area (Table 2)

With the assistance of forest rangers and other county residents having expert knowledge, every stream, lake, reservoir, meadow, plateau

and primitive area in each county was classified and its capacity for potential recreation development was measured according to the standards and assumptions set forth in Table 1.

The results of this classification and measurement are presented, county by county, in Table 2.

III. ESTIMATION OF RECREATION USE

The estimates of developable area presented in Table 2 provide a basis for estimation of potential user-days if facilities are developed and used to capacity. These estimates are shown in Table 3.

The estimates employ conservative assumptions as to average number of persons using a facility and length of season. Nevertheless, the estimates add up to a grand total of 463,000,000 user-days per year.

This total includes approximately 89,000,000 user-days representing direct use of existing and proposed reservoir areas (Table 4). Indirectly, water resource projects are bound to have a much larger effect, as without such projects development along many other streams would not occur. A reservoir project which contributes to stabilization of stream flow, for example, will stimulate downstream use by fishermen and campers, and will increase the demand for resorts, camp and picnic grounds beyond the immediate vicinity of the reservoir.

No adequate comparison can be made between the estimate of 463,000,000 user-days, which is for capacity use and includes both public and private facilities, and present recreation use. For one thing, no adequate data are available on present use of commercial and other private facilities. For national forest areas, for which records are kept, total use in 1955 is estimated at 8,350,000 visitor-days, including persons driving through the forests to enjoy scenic attractions. More significant than the present level of recreation use is its rapid increase in recent years, as discussed earlier in this report.

Estimated visitor-days for Shasta County include the Shasta Lake area, which in 1955 had an estimated 340,000 visitor-days of use. This is a small proportion of the 20,874,000 visitor-days estimated as potential capacity recreation use of reservoir areas in Shasta County.

For planning purposes, it is probably reasonable to assume, conservatively, that annual average use of recreation facilities at ultimate development will be about one-third of the capacity estimates. This indicates a total of about 150,000,000 visitor-days for the northeastern counties, including 30,000,000 visitor-days in reservoir areas.

Recreation benefit

A figure of \$2.00 per visitor-day is suggested for use in measuring recreation benefit. Use of this figure would give a total recreation benefit of approximately \$300,000,000 at full development, including \$60,000,000 in reservoir areas. *

By comparison, \$300,000,000 is a little more than the value of 1955 agricultural production in the 15 northeastern counties (estimated by agricultural commissioners at \$287,392,000 f.o.b. farms), and about 50 percent more than the value of current annual timber production (estimated at about \$200,000,000 f.o.b. mills).

* All estimates are in dollars of present purchasing power.

The \$2.00 figure has been selected after extensive review of the problem of measuring recreation benefit with government agencies and other organizations working in the recreation field. It is recognized that no single monetary measure will be accepted by all persons, but the concept of benefit from a visitor-day of use probably finds the widest acceptance. The \$2.00 figure is consistent with benefit figures currently used by Federal agencies for benefit-cost analysis, and is believed to understate recreation value from the point of view of public welfare and public policy.

The \$2.00 figure represents a judgment of the direct benefit to an average tourist, vacationer, sportsman, or other "recreationist" of a day in the outdoors, using the types of facilities indicated in this survey. It represents the intangible value of recreation, over and above expenditures for food, lodging, transportation, sporting equipment and other factors necessary or incidental to enjoyment of the recreation.

The latter factors may appear as indirect benefits to the local business community in the form of gross receipts for food, shelter, automobile fuel and service, sportswear and sporting equipment, etc. Recent surveys indicate that at current income and price levels, such expenditures average \$8.00 per visitor-day in the western states. (These studies are described in this consultant's report to the State Department of Water Resources on recreation potential of the Upper Feather River Basin).

Relative contribution of counties to recreation benefit

The relative contribution of each county to estimated total recreation benefit is indicated by the following percentages, which represent each county's share of total estimated annual visitor-days use of recreation areas in the northeastern counties at full development:

PERCENTAGE OF POTENTIAL RECREATION USE (IN USER-DAYS)
ACCOUNTED FOR BY EACH OF 15 NORTHEASTERN COUNTIES
(based on Table 3)

| | |
|----------|-------|
| Butte | 5.4% |
| Colusa | 2.4 |
| Glenn | 2.6 |
| Lake | 5.0 |
| Lassen | 7.9 |
| Modoc | 7.1 |
| Plumas | 10.0 |
| Shasta | 14.7 |
| Sierra | 3.3 |
| Siskiyou | 13.4 |
| Sutter | 1.3 |
| Tehama | 11.5 |
| Trinity | 9.5 |
| Yolo | 2.8 |
| Yuba | 3.1 |
| | <hr/> |
| | 100.0 |

The same proportions might also indicate very approximately the share of each county in potential expenditures for recreation purposes. However, it is very difficult to estimate the volume of recreation expenditures which would appear as receipts to business in each county. For one thing, the average of \$8.00 per visitor-day shown by available studies reflects primarily the expenditure of motorists visiting an area for a relatively brief period (several days up to two weeks). In the potential recreation development of the northeastern

counties, on the other hand, about one-third of total user-days are expected to be accounted for by recreation residences; families in such residences may have substantially different expenditure patterns from families who are traveling and spend much less time in an area.

Even where the \$8.00 per visitor-day figure (or a similar figure) applies, some of the expenditure is for food, gasoline, etc. enroute, and may not be spent in the county whose recreation area is the objective of the trip.

For crude estimating purposes, however, it may be said that at present price levels the total estimated annual recreation use of 150,000,000 visitor-days in the northeastern counties might involve something on the order of \$1,200,000,000 of expenditure (@ \$8.00 per visitor-day) and that various counties might share in such expenditures roughly in proportion to their share of developed recreation facilities and potential user-days in the 15-county total.

To sum up, it does not seem unreasonable to estimate that the northeastern counties have the potential in natural resources to support recreation activity worth one billion dollars per year or more, at ultimate development and in present dollars, in gross receipts to the construction, retail and service industries of the area.

IV. RECREATION RESOURCES OF THE NORTHEASTERN COUNTIES

This section contains brief descriptions of the recreation resources of the northeastern counties, to indicate principal features suitable for recreation development.

The descriptions reflect the findings of the inventory of recreation resources discussed in Section II.

Butte County

The climate, terrain, and accessibility of the foothill portions of Butte County have already encouraged a great diversity of recreation development which include a wide range of public and private activities. The community of Paradise located at about 2,000 feet elevation in the north central portion of Butte County is a notable example of a rapidly expanding resort, summer home, and retirement center. Similar low density rural communities will be duplicated many times in the future along the entire length of the Sierras, in some cases up to an elevation of 3,500 feet.

Butte County has many valuable natural resources that are especially suitable to encourage extensive resort and summer home development in the Sierra Foothills up to an elevation of 3,500 feet and public camping, hunting, hiking, skiing and related recreation activities at higher altitudes. Portions of The Lassen National Forest and Plumas National Forest lie within the county and comprise 12 percent of its land area.

The inventory of recreation resources indicates that approximately 25 percent of the gross area of the county is usable for permanent and summer homes, while an additional 11 percent of the county is suitable for group and family camps and resorts.

Extensive urban growth is anticipated around Chico and Oroville, particularly with the increased economic activity resulting from the construction of Oroville dam. Home building may extend from Oroville to Palermo and will doubtless expand in such valley towns as Gridley, Biggs, and small centers along the Sacramento River. In the Sierra foothills retirement homes and small farms are expected to follow the most desirable watercourses such as the Chico, Little Butte and Clear Creeks north to the county line. New water sources will change much of the high plateau range-land into a pattern of small farms, resorts, and retirement centers. In time almost all of Butte County's eastern slope will be made accessible. Resorts and public recreation areas will be interspersed among the living areas. At higher elevations these public facilities will be more extensive.

Proper planning of the county's recreation resources should set aside large wild life and wilderness areas along the Sacramento and Feather Rivers and some of the picturesque rim rock country of the lower Sierras.

Colusa County

The rich agricultural lands of the Sacramento Valley and the dry oak-studded range land of the western foothills comprise most of the county. The introduction of water storage reservoirs, particularly those that will be maintained at a constant water level will change the character of the area and increase its desirability for building vacation homes and resorts.

The upper reaches of Big Stony Creek, Mill Creek and Little Stony Creek are desirable for camping, fishing and some resorts. The higher ridges between Colusa and Lake County have desirable forest recreation characteristics. The area east and south of East Park Reservoir is dry range and for recreation purposes suitable only for hunting and a few mineral spring health resorts.

The Sacramento River which flows along the eastern county boundaries is the greatest recreation resource in Colusa County. Potentially this wonderful river could provide a wide range of water recreation activities: camping, picnicking, resort development and choice permanent and summer home location and the reservation of large river primitive areas in order to preserve the beauties and powerful significance of this jugular vein of Northern California.

Glenn County

Nearly one-fourth of Glenn County is in the Mendocino National Forest which reaches an altitude of over 7,000 feet. Good timber stands, many streams and springs and relatively easy access should result in continuing increase in use of this area.

Portions of this higher forested area would be most suitable preserved as an inaccessible wilderness and camping area. Medium altitude meadows and streams will attract campers, trailer camps, resorts and a sprinkling

of vacation homes, particularly along the upper reaches of Grindstone Creek, Salt Creek, and the middle fork of Stony Creek and on the western slope along Black Butte Creek and its tributaries.

Below 2,500 feet elevation digger pines and native oaks indicate a dry grazing zone suitable for hunting but discouraging to other recreation pursuits except immediately along the major streams.

Stony Gorge Reservoir located in the foothills above the Sacramento Valley floor, attracts over 1,000 water sports enthusiasts during a Sunday for a four-month season even without facilities available to encourage this use. This is evidence that reservoirs built in this hot, dry foothill area will substantially increase the recreation potential of the county.

Bird refuges are important recreation resources of Glenn and other Valley counties and should receive considerable planned expansion to maintain the Pacific Flyway and meet the increasing hunting pressures. The Sacramento River is a major recreation resource that is receiving considerable increased use without proper controls to ensure orderly resort, summer home, and camping development and to preserve portions of the primitive river and wildlife scene.

Lake County

Of the 15 northeastern counties under investigation Lake County is unique. The ability of this county to attract a large population may be surmised from the historic record of a dense Indian population which enjoyed the natural abundance of foods and the mild climate.

Although Lake County is one of the smallest of the northeastern counties it is one of the richest in natural recreation resources. Lying entirely within the coast range the southern portion of the county is typical foothill country of rolling hills, numerous streams and upland valleys. North of Clear Lake the terrain becomes more rugged with extensive lumber stands within the Mendocino National Forest. The recreation resources of the county have already been extensively developed. Resorts, homes and public parks around Clear Lake, the Blue Lakes and to a lesser extent Pillsbury Lake indicate the attractiveness of such natural or man-made water resources.

The inventory of recreation land indicates that approximately 30% of the county is suitable for permanent and summer homes and the expansion of urban centers. Approximately seven percent could be used for a wide range of resorts and approximately 14.2 percent for family and group camping activities.

Field investigations and conferences with county officials confirm the trend of increased construction of retirement homes and small farms. Sprinkler irrigation has made possible the planting of fruit and nut orchards in the hill areas. The favorable climate and easy commuting to the metropolitan area is encouraging large numbers of retired, semi-retired and week-end commuters to buy 5 or 10 acre orchards. There are strong indications that much of the county will become a bedroom satellite of the Bay Area.

A sampling of resort activity reveals an increase of 50 percent to 100 percent during the past year. Boating on Clear Lake has increased many times over in recent years according to experts close to this activity, though only 20 percent of the accessible shoreline is being used for recreation purposes. The mild climate favors the gradual increase of the tourist season to a 12 month operation. In addition to the usual resort development there is already a noticeable trend to construct golf courses and private and resort airports for pleasure aircraft.

Lassen County

Geographically the Lahontan Plain which covers most of Lassen County seems unrelated to other parts of Northern California. Perhaps this remoteness is partly responsible for the relatively undeveloped state of the recreation resources of the region.

National forests - Lassen, Modoc, and Plumas - cover 21 percent of the county's area. The inventory of recreation potential showed that the county has a relatively high potential user day capacity with major emphasis on camping and outing experiences and somewhat lesser potential for the building of resorts, and vacation homes.

The mild summer climate will encourage extensive use of the forest, many lakes and streams in the western half of the county. The Blue Lakes region in the southern end of the Warner Range, only recently discovered by the public, is an example of the excellent and as yet unused and unspoiled recreation resources in the county.

The extensive Pit River Watershed including Horse, Davis, Juniper, Willow and Ash Creeks provide opportunities for extensive camping and resort possibilities as well as centers for the best hunting field of Central and Eastern Lassen County. Such creeks as Red Rock, Snake and Buckstrom Canyon and a number of lakes and reservoirs along the eastern portion of the county provide recreation areas similar to the popular dry plateau vacation lands of Arizona and New Mexico.

Lassen Volcanic National Park and the Caribou Peak wild area are a small part of the choice vacation land that falls within Lassen County. Without question a large part of Lassen County's future depends on the wise use of these natural resources.

Eagle Lake, located approximately 17 miles northwest of Susanville promises to have a bright recreation future as a large resort or vacation center.

Plans are now underway to maintain a constant level on this large inland lake , to provide paved road access and encourage the construction of resorts and summer home tracts. Susanville, the county seat, is already recognized as the hub of a wide range of recreation facilities, including winter sports, hunting, fishing, boating and family and group camping.

Modoc County

From a scenic and recreation viewpoint Modoc County is a land of contrasts with features ranging from lava beds with ice caves, and a labyrinth of underground passages to the great inland seas of Goose Lake and the Upper, Middle and Lower Alkali Lakes of Surprise Valley. Over half of the county is included in the Modoc National Forest. The wild and primitive Warner Mountains with extensive forests, perennial streams and small lakes, all are potential vacation lands which contrast with the broad juniper and bitter-weedplains in the south central parts. The great 30,000 head herd of muletail deer that migrate south from Oregon have made hunting the major recreation activity. A short season of goose and duck shooting is also a major attraction for sportsmen.

As with Lassen County, Modoc County has a very promising recreation future providing that the use of these natural wonders is carefully planned to protect the delicate natural balance between flora and fauna in this water deficient area. The development of family camping areas, attractive

trailer parks and access to the many points of scenic interest will lengthen the recreation season and increase the importance to the county of this segment of the economy.

The balanced development of these scenic and wildlife resources also require the preservation of large wild life and game refuges and primitive areas. Guided by wise planning even the famous Modoc antelope may be returned to their former strength.

Plumas County

The boundaries of Plumas County coincide roughly with those of the Plumas National Forest, which occupies about 70 percent of the county. The rough terrain of the Sierra Nevada is here relieved by arable valleys - Sierra, Indian, American, Mohawk, and Genessee - and by the splendid watercourse of the Feather River and its tributaries.

Plumas County offers the tourist, vacationer, sportsman and other "recreationist" the finest in mountain scenery, environment, and sports opportunities, including winter sports.

(No detailed description of recreation areas in Plumas County is given here because, pursuant to contract, such is included in a separate report to the State Department of Water Resources on the recreation potential of the Upper Feather River Basin.)

Shasta County

Shasta County may be considered the central show window of the recreation resources of Northern California because of its strategic location at the head of the great Sacramento Valley and because of its great variety of recreation resources, including deep canyons and high mountain peaks, dense forest and sun-scorched valleys, the headwaters of the mighty Sacramento River and secluded upland streams and meadows. These are a few of the easily accessible recreation resources to be sampled and enjoyed, and that inevitably lead to further exploration into the more inaccessible back country in Trinity, Siskiyou, Modoc and Lassen Counties.

As shown on the recreation resource map, there are many desirable recreation residence and resort locations in the county, especially along Hat and Montgomery Creeks and around the Castle Crags and the Castella areas. Urban expansion around Redding will probably extend eastward and south to the Tehama County border. In the Happy Valley and Balls Ferry area there are many examples of the conversion of larger farm holdings into small residence farms of from two to 10 acres. This pattern will be extended over large parts of this rich river bottom land to form a very low density and decentralized urban community. A relatively large proportion of the population that will settle in the Redding area will probably be retired, having been attracted to this scenic and enjoyable land to relax and "live" away from the congestion of metropolitan areas.

About one-fourth of the county area has recreation potential which is divided fairly evenly between possible public and private development. Estimates of capacity user days at ultimate development are higher than for any other of the 15 northeastern counties (Table 3).

Sierra County

Although small in total gross area Sierra County could devote about one-third of its rugged streams to recreation activities. The Yuba River watershed accounts for the very high potential even though at present access is limited to state highways #49 and #89. The yearly capacity use of the camping and resort facilities of the Lakes Basin Recreation Area indicates the desirability of these resources for family camping and sportsman fishing and hunting. The eastern end of the county, being less precipitous forest land and including the southerly portion of Sierra Valley has many recreation streams of high recreation value, including the little Truckee River.

The Sacramento and San Francisco Bay Metropolitan populations are already placing heavy pressure on these forests because of their proximity to these expanding urban centers. Certainly with proper long range planning, the recreation resources of the Sierra County will become the major economic activity.

Siskiyou County

The largest and most rugged county in the area provides some of its finest scenery. A few of its scenic areas have already been protected within the Klamath National Forest as primitive and wild areas. These include the Marble Mountains which are famous for their Alpine beauty and are attracting more and more people to pack and hike into these remote regions. The recreation resource inventory shows that all of the streams have a high potential for a balanced recreation development with emphasis on small less accessible streams for organization camping.

The towns of Etna and Fort Jones in Scott Valley are reminiscent of a Swiss setting nestled among high forested mountains and watered by white water streams. Such restful spots are ideally suited to accommodate dude ranches and resorts developed to harmonize with the relaxed country environment. The proposed ski and winter sports development at Mt. Shasta Recreation Area and the use of Medicine Lake by increasing vacationists are two examples of current interest in large scale recreation potentials in Siskiyou County. The Klamath National Forest lies entirely within the western portion of the county. Forest Service personnel recognize the increasing pressure for fine recreation areas and are making good progress in coordinating the planning for multi-use of the forest. Most of Siskiyou has recreational potential and it is only a question of time when the primary problems will relate to planning and building camps, resorts, and vacation houses fast enough to meet the accelerating state-wide demands.

Along the Klamath River and at the mouth of each tributary summer resorts, public camps and vacation homes will be built. The Salmon River, Trout Creek and Butte Creek are examples of locations where camps and cabins can be expected eventually. The development of Shasta Springs as a group camp and summer religious center is an example of a recreation activity that will probably increase in Siskiyou County.

Sutter County

The primary recreation resources of Sutter County are the waters of the Feather and Sacramento Rivers, which have so far received only incidental protection or development. Potentially these waterways can provide enjoyment for many people including water sports enthusiasts, campers, river tourers, birdwatchers, fishermen, farmers and other residents along the rivers. However, many spots along the river banks are now being used for dumping grounds and other inappropriate uses. Pollution of the river waters is common today and if continued will destroy the recreation values that nature so freely provided.

Because Sutter County is small and lacks the variety of recreation resources that other northeastern counties have, it has a special incentive to protect and develop its river recreation areas.

Tehama County

Reaching from the crest of the Coast Range across the upper end of the Sacramento Valley and high up in the Sierra slope, Tehama County has a great variety of natural recreation resources. Portions of four national forests (Lassen, Shasta, Trinity, and Mendocino) include approximately 20 percent of the County's area. These forests possess many desirable fishing streams, particularly in the Lassen forest where there are many suitable spots for vacation homes, resorts and extensive camping for families and organizations. Winter sports areas are already being developed near Lassen Volcanic National Park and several favorable sites are being considered at high elevations on the Coast Range. Below the timber line particularly on the west side of the valley the recreation potential is limited to hunting of deer and upland birds. However, the construction of reservoirs in these western foothills will attract heavy recreation use if desirable operation characteristics are maintained.

About one-fourth of the County has potential for homes, resorts, and camping, under optimum conditions.

As with other Valley counties, the Sacramento River provides Tehama County with a large recreation potential for active use and passive enjoyment. This resource, unlike the inaccessible mountains, has been sadly neglected, misused and polluted. With rising recreation demand it will become increasingly urgent to stop these practices and inaugurate constructive measures to protect one of the major recreation resources of Northern California.

Trinity County

In the remote and inaccessible parts of southern Trinity County are said to live mountain folk who have never seen the outside world. True or not, there is little question that all of this rugged mountain country is a paradise for the devoted camper, packer and mountaineer. Without doubt recreation use will ultimately be Trinity County's largest economic activity. The many secluded and wonderful valleys that now support a limited agricultural economy lend themselves to resort and vacation home use as already exist along Coffee Creek, around Trinity Center, and in the Hayfork and Wildwood areas. The preservation of the Salmon Trinity and Yolla Bolly Wilderness areas are tribute to the foresight of the Forest Service in protecting some of the finest scenic country in America. Such planning should extend to many other areas throughout the "Shasta-Cascade Wonderland".

Four U. S. Forests (Mendocino, Shasta, Trinity and Six Rivers) cover two-thirds of this county, indicating the extent of the national forest. The estimates of ultimate recreation use indicate that about 15 percent of the gross area of the county has recreation value and when fully developed could contain facilities sufficient to accommodate approximately 44,000,000 visitor-days per season at capacity use, or nearly 10 percent of the total use estimated for all of the 15 northeastern counties.

Yolo County

Yolo County is expected to receive a larger percentage of the urban population than any other of the northeastern counties. This population concentration will require that special attention be given to the proper and full utilization of the relatively limited recreation resources of the county. The Sacramento River along the easterly county line is the greatest natural resource, and has great potential for boating and water sports, home sites and resorts. Public access to the river is an immediate problem which, unless adequately provided before the cost is prohibitive, will seriously limit the full use of the Sacramento River and its tree-lined shores.

The western boundary of the county follows the crest of the Vaca Mountains which presently have a limited recreation potential. Hunting is a major attraction in this area.

Monticello Reservoir now under construction on Putah Creek and particularly the Monticello Dam Afterbay will attract great numbers of day and weekend people as well as extensive summer home and resort construction. Water, as a new reservoir or a freshened stream, will give new recreation life to the western hill country of Yolo County.

Yuba County

The description of recreation values of Butte County apply in large measure to Yuba County which lies just to the south. The number of small, pleasant towns such as Brownsville, Challenge, Comptonville, give an indication of the desirable character of the Sierra foothills for rural living. As most of the county is readily accessible it has been estimated from the recreation resource inventory that more than 20 percent of the total area has potential for family and group camping, vacation cabins and permanent homes and a wide range of resort and overnight accommodations. About 12 percent of the county is covered by the Plumas and Tahoe National Forest.

TABLES (PART TWO)

Table 1

| d Picnicking Areas, etc..... | | | Organizational Camps, etc..... | | |
|---------------------------------|------------------------|----|--------------------------------------|----------------|------------------------|
| per Acre | Units/ Lineal Miles | % | Acres | Units per Acre | Units/ Lineal Miles |
| 2 | 128 | | | | |
| 2 | 54 | | | | |
| 2 | 50 | 5 | 4 | 1 in 40 acres | 1 camp per 10 mi. |
| 2 | 34 | 5 | 2 | 1 in 40 acres | river per 20 mi. |
| 2 | 128 | | | | river |
| 2 | 54 | | | | |
| 2 | 50 | 5 | 4 | 1 in 40 acres | 1 camp per 10 mi. |
| 2 | 34 | 5 | 2 | 1 in 40 acres | river per 20 mi. |
| acres | | 10 | | | |
| acres | | 10 | | | |
| centage per unit | | | | | |
| " per unit | | | | | |
| 2 | 96 | 15 | 14 | 1 in 40 acres | 1 camp per : |
| 2 | 48 | 15 | 7 | 1 in 40 acres | 3 miles river |
| 2 | 32 | 15 | 5 | 1 in 40 acres | 6 miles river |
| 2 | 16 | 15 | 2 | 1 in 40 acres | 8 miles river |
| acres | | 40 | | 1 in 40 acres | 20 miles river |
| acres | | 30 | | 1 in 40 acres | |
| per 200 acres | | | | | |
| acres* (including trailer parks | | 10 | | 1 in 40 acres | |

eel mileage

real mileage x .75

real mileage x .325

arks

STANDARDS USED TO CLASSIFY AND MEASURE
POTENTIAL RECREATION AREAS
Recreation Standards Chart
Area Suitable for Average Development

| Recreation Area Classification | | Total Area Classified For Recreation Development | | Total Intensive Recreation Development | | Permanent and Summer Homes | | | | Resorts, Pack Stations, Restaurants, Hotels, Etc. | | | | Camping and Picnicking Areas, etc..... | | | | Organizational Camps, etc..... | | | |
|--------------------------------|-------|--|-----------------------|--|------------------------|--|-------|--------------------|--------------------|--|-------|------------------------|--------------------|--|-------|--|--------------------|--------------------------------------|-------|----------------|----------------------------|
| | | Distance from Each Side of Stream | Acres per Lineal Mile | % | Acres per Lineal Miles | % | Acres | Units per Acre | Units/Lineal Miles | % | Acres | Units per Acre | Units/Lineal Miles | % | Acres | Units per Acre | Units/Lineal Miles | % | Acres | Units per Acre | Units/Lineal Miles |
| | | | | | | | | | | | | | | | | | | | | | |
| R1 | Blue" | 1/2 mile | 640 | 50 | 320 | 50 | 160 | 1 | 160 | 30 | 96 | 1 in 15 acres | 19 | 20 | 64 | 2 | 128 | | | | |
| R2 | " | 1/4 mile | 320 | 40 | 128 | 50 | 64 | 1 | 64 | 30 | 38 | 1 in 15 acres | 8 | 20 | 26 | 2 | 54 | | | | |
| R3 | " | 3/16 mile | 240 | 30 | 72 | 40 | 29 | 1 | 29 | 20 | 14 | 1 in 15 acres | 3 | 35 | 25 | 2 | 50 | 5 | 4 | 1 in 40 acres | 1 camp per 10 mi. |
| R4 | " | 1/8 mile | 160 | 30 | 43 | 40 | 19 | 1 | 19 | 20 | 10 | 1 in 15 acres | 2 | 35 | 17 | 2 | 34 | 5 | 2 | 1 in 40 acres | 1 camp per 20 mi. |
| R1R | " | 1/2 mile | 640 | 50 | 320 | 50 | 160 | 1 | 160 | 30 | 96 | 1 in 15 acres | 19 | 20 | 64 | 2 | 128 | | | | |
| R2R | " | 1/4 mile | 320 | 40 | 128 | 50 | 64 | 1 | 64 | 30 | 38 | 1 in 15 acres | 8 | 20 | 26 | 2 | 54 | | | | |
| R3R | " | 3/16 mile | 240 | 30 | 72 | 40 | 29 | 1 | 29 | 20 | 14 | 1 in 15 acres | 3 | 35 | 25 | 2 | 50 | 5 | 4 | 1 in 40 acres | 1 camp per 10 mi. |
| R4R | " | 1/8 mile | 160 | 30 | 48 | 40 | 19 | 1 | 19 | 20 | 10 | 1 in 15 acres | 2 | 35 | 17 | 2 | 34 | 5 | 2 | 1 in 40 acres | 1 camp per 20 mi. |
| RA2 | " | | | 40 | | 20 | | 1 unit per 3 acres | | 20 | | 1 in 15 acres | | 50* | | 1 in 3 acres | | 10 | | | |
| L2 | " | | | 60 | | 40 | | 1 unit per 2 acres | | 15 | | 1 in 15 acres | | 35* | | 1 in 2 acres | | 10 | | | |
| H1 | " | | | 15 | | | | | | 80) | | 470' frontage per unit | | 20* | | 470' frontage per unit | | | | | |
| H2 | " | | | 5 | | | | | | 80) | | per unit | | 20* | | " " per unit | | | | | |
| S1 | " | 1/4 mile | 320 | 30 | 96 | 20 | 19 | 1 | 19 | 15 | 14 | 1 in 15 acres | 3 | 50 | 48 | 2 | 96 | 15 | 14 | 1 in 40 acres | 1 camp per : 3 miles river |
| S2 | Green | 3/16 mile | 240 | 20 | 48 | 20 | 10 | 1 | 10 | 15 | 7 | 1 in 15 acres | 15 | 50 | 24 | 2 | 48 | 15 | 7 | 1 in 40 acres | 6 miles river |
| S3 | " | 1/8 mile | 160 | 20 | 32 | 20 | 6 | 1 | 6 | 15 | 5 | 1 in 15 acres | 1 | 50 | 16 | 2 | 32 | 15 | 5 | 1 in 40 acres | 8 miles river |
| S4 | " | 1/16 mile | 80 | 20 | 16 | 20 | 3 | 1 | 3 | 15 | 2 | 1 in 15 acres | 1/2 | 50 | 8 | 2 | 16 | 15 | 2 | 1 in 40 acres | 20 miles river |
| RA1 | " | | | 20 | | | | | | | | | | 60 | | 1 in 3 acres | | 40 | | | |
| L1 | " | | | 50 | | | | | | | | | | 70 | | 1 in 3 acres | | 30 | | | |
| Primitive | " | | | 100 | | | | | | | | (1 pack station per | | | | 1 camp per 200 acres | | | | | |
| River Prim." | " | | | 10 | | | | | | | | (10,000 acres | | | | | | | | | |
| RA3 | Brown | | | 10 | | | | | | | | | | 30* | | 1 in 3 acres* (including trailer parks | | 10 | | 1 in 40 acres | |
| Wildlife | " | | | 100 | | 20 | | 1 unit per 3 acres | | 40 | | 1 in 15 acres | | | | | | | | | |

Blue: Represents areas accessible for maximum recreational use
Green: Represents inaccessible areas of maximum recreational use
Brown: Represents accessible areas of limited recreational use

R1R, etc.: Divide lineal miles by "2" and proceed
Rivers dividing counties - take 1/2 lineal measurement

To Measure "Quads":
62,500 quad: - wheel mileage
48,000 quad: - lineal mileage x .75
24,000 quad: - lineal mileage x .325

* includes trailer parks

TABLE 2

Acres in Potential Recreation Areas
and Urban Areas

BUTTE COUNTY

Acres in Recreation Facilities

| Area Classification | Total Area | Developed Area | Recreation Residences | Commercial Facilities | Camping and Picnic Grounds | Organizational Camps |
|---------------------|----------------|----------------|-----------------------|-----------------------|----------------------------|----------------------|
| <u>Blue:</u> | | | | | | |
| R1 | 104,960 | 52,480 | 26,240 | 15,744 | 10,496 | |
| R2 | 51,520 | 20,608 | 10,304 | 6,183 | 4,121 | |
| R3 | 19,320 | 5,796 | 2,319 | 1,159 | 2,028 | 290 |
| R4 | 2,960 | 888 | 355 | 178 | 311 | 44 |
| S1 | | | | | | |
| RA2 | 182,390 | 72,956 | 14,592 | 14,592 | 36,478 | 7,297 |
| H1 | 285 | 43 | | 34 | 9 | |
| H2 | | | | | | |
| R1R | 66,020 | 33,010 | 16,505 | 9,904 | 6,603 | |
| R2R | | | | | | |
| L2 | 10,170 | 6,102 | 2,441 | 915 | 2,136 | 610 |
| | <u>437,625</u> | <u>191,883</u> | <u>72,756</u> | <u>48,709</u> | <u>62,182</u> | <u>8,241</u> |
| <u>Green:</u> | | | | | | |
| S2 | | | | | | |
| S3 | | | | | | |
| S4 | | | | | | |
| RA1 | | | | | | |
| Primitive | | | | | | |
| <u>Brown:</u> | | | | | | |
| RA3 | | | | | | |
| Wildlife | 9,620 | | | | | |
| <u>Red:</u> | | | | | | |
| Urban | <u>191,460</u> | | | | | |
| Totals by columns | 638,705 | 191,883 | 72,756 | 48,709 | 62,182 | 8,241 |

Table 2-b

COLUSA COUNTY

Acres in Recreation Facilities

| Area Classification | Total Area | Developed Area | Recreation Residences | Commercial Facilities | Camping and Picnic Grounds | Organizational Camps |
|---------------------|------------|----------------|-----------------------|-----------------------|----------------------------|----------------------|
| <u>Blue:</u> | | | | | | |
| R1 | 43,360 | 21,680 | 10,840 | 6,504 | 4,336 | |
| R2 | 12,000 | 4,800 | 2,400 | 1,440 | 960 | |
| R3 | 1,440 | 432 | 173 | 87 | 151 | 21 |
| R4 | 5,920 | 1,776 | 710 | 355 | 622 | 89 |
| S1 | 7,040 | 2,112 | 422 | 317 | 1,056 | 317 |
| RA2 | 80,642 | 32,257 | 6,451 | 6,451 | 16,129 | 3,226 |
| H1 | 294 | 44 | | 35 | 9 | |
| H2 | | | | | | |
| R1R | 15,360 | 7,680 | 3,840 | 2,304 | 1,536 | |
| R2R | | | | | | |
| L2 | | | | | | |
| Total | 166,056 | 70,781 | 24,836 | 17,493 | 24,799 | 3,653 |
| <u>Green:</u> | | | | | | |
| S2 | 8,280 | 1,656 | 331 | 249 | 828 | 249 |
| S3 | 7,440 | 1,488 | 298 | 223 | 744 | 223 |
| S4 | 1,520 | 304 | 61 | 46 | 152 | 46 |
| RA1 | | | | | | |
| Primitive | | | | | | |
| L1 | 320 | 160 | | | 112 | 48 |
| Total | 17,560 | 3,608 | 690 | 518 | 1,836 | 566 |
| <u>Brown:</u> | | | | | | |
| RA3 | 86,560 | 8,656 | 1,731 | 3,462 | 2,597 | 866 |
| Wildlife | 48,662 | | | | | |
| Total | 135,222 | 8,656 | 1,731 | 3,462 | 2,597 | 866 |
| <u>Red:</u> | | | | | | |
| Urban | 9,540 | | | | | |
| Totals by columns | 328,378 | 83,045 | 27,257 | 21,473 | 29,232 | 5,085 |

GLENN COUNTY

Acres in Recreation Facilities

| Area Classification | Total Area | Developed Area | Recreation Residences | Commercial Facilities | Camping and Picnic Grounds | Organiz- ational Camps |
|------------------------|---------------|-------------------|--------------------------|--------------------------|----------------------------------|------------------------------|
| <u>Blue:</u> | | | | | | |
| R1 | 32,480 | 16,240 | 8,120 | 4,872 | 3,248 | |
| R2 | | | | | | |
| R3 | | | | | | |
| R4 | | | | | | |
| S1 | 13,920 | 4,176 | 835 | 627 | 2,088 | 627 |
| RA2 | 122,874 | 49,150 | 9,830 | 9,830 | 24,574 | 4,913 |
| H1 | 172 | 26 | | 21 | 5 | |
| H2 | | | | | | |
| R1R | 24,160 | 12,080 | 6,040 | 3,624 | 2,416 | |
| R2R | | | | | | |
| L2 | 426 | 256 | 102 | 38 | 90 | 26 |
| Total | 194,032 | 81,928 | 24,927 | 19,012 | 32,421 | 5,566 |
| <u>Green:</u> | | | | | | |
| S2 | 23,880 | 4,776 | 955 | 716 | 2,388 | 716 |
| S3 | 14,640 | 2,928 | 585 | 440 | 1,464 | 440 |
| S4 | 2,880 | 576 | 115 | 86 | 288 | 86 |
| RA1 | | | | | | |
| Primitive | | | | | | |
| Total | 41,400 | 8,280 | 1,655 | 1,242 | 4,140 | 1,242 |
| <u>Brown:</u> | | | | | | |
| RA3 | | | | | | |
| Wildlife | 32,740 | | | | | |
| <u>Red:</u> | | | | | | |
| Urban | 3,520 | | | | | |
| Totals by columns | 271,692 | 90,208 | 26,582 | 20,254 | 36,561 | 6,808 |

LAKE COUNTY

Acres in Recreation Facilities

| Area Classification | Total Area | Developed Area | Recreation Residences | Commercial Facilities | Camping and Picnic Grounds | Organizational Camps |
|---------------------|------------|----------------|-----------------------|-----------------------|----------------------------|----------------------|
| <u>Blue:</u> | | | | | | |
| R1 | 44,004 | 22,002 | 11,001 | 6,601 | 4,400 | |
| R2 | 76,960 | 30,784 | 15,392 | 9,236 | 6,157 | |
| R3 | 840 | 252 | 101 | 50 | 88 | 13 |
| R4 | 7,360 | 2,208 | 884 | 440 | 772 | 112 |
| S1 | | | | | | |
| RA2 | 436,030 | 174,412 | 34,882 | 34,882 | 87,206 | 17,441 |
| H1 | | | | | | |
| H2 | | | | | | |
| R1R | 11,020 | 5,510 | 2,755 | 1,653 | 1,102 | |
| R2R | 320 | 128 | 64 | 38 | 26 | |
| L2 | | | | | | |
| Total | 576,534 | 235,296 | 65,079 | 52,900 | 99,751 | 17,566 |
| <u>Green:</u> | | | | | | |
| S2 | 600 | 120 | 24 | 18 | 50 | 18 |
| S3 | | | | | | |
| S4 | | | | | | |
| RA1 | | | | | | |
| Primitive | | | | | | |
| Total | 600 | 120 | 24 | 18 | 50 | 18 |
| <u>Brown:</u> | | | | | | |
| RA3 | | | | | | |
| Wildlife | 29,940 | | | | | |
| <u>Red:</u> | | | | | | |
| Urban | 102,160 | | | | | |
| Totals by columns | 709,234 | 235,416 | 65,103 | 52,918 | 99,801 | 17,584 |

LASSEN COUNTY

Acres in Recreation Facilities

| Area Classification | Total Area | Developed Area | Recreation Residences | Commercial Facilities | Camping and Picnic Grounds | Organizational Camps |
|---------------------|------------|----------------|-----------------------|-----------------------|----------------------------|----------------------|
| <u>Blue:</u> | | | | | | |
| R1 | 36,800 | 18,400 | 9,200 | 5,520 | 3,680 | |
| R2 | 43,200 | 17,280 | 8,640 | 5,184 | 3,456 | |
| R3 | 32,980 | 9,895 | 3,958 | 1,979 | 3,463 | 495 |
| R4 | 14,560 | 4,368 | 1,747 | 874 | 1,529 | 218 |
| S1 | | | | | | |
| RA2 | 501,451 | 200,580 | 40,116 | 40,116 | 100,290 | 20,058 |
| H1 | 719 | 108 | | 86 | 22 | |
| H2 | 81 | 12 | | 10 | 2 | |
| R1R | 33,920 | 16,960 | 8,480 | 5,088 | 3,392 | |
| R2R | 10,160 | 4,064 | 2,032 | 1,219 | 813 | |
| R3R | 6,770 | 2,031 | 812 | 406 | 711 | 102 |
| R4R | 740 | 222 | 89 | 44 | 78 | 11 |
| L1 | | | | | | |
| L2 | 11,150 | 6,690 | 2,676 | 1,044 | 2,342 | 669 |
| Total | 681,381 | 280,610 | 77,750 | 61,530 | 119,778 | 21,553 |
| <u>Green:</u> | | | | | | |
| S3 | | | | | | |
| S4 | | | | | | |
| RA1 | | | | | | |
| Primitive | 27,882 | | | | | |
| S2 | | | | | | |
| L1 | 5,620 | 2,810 | | | 1,967 | 843 |
| Total | 33,502 | 2,810 | | | 1,967 | 843 |
| <u>Brown:</u> | | | | | | |
| RA3 | 1,524,996 | 152,500 | 30,500 | 61,000 | 47,750 | 15,250 |
| Wildlife | 45,070 | | | | | |
| Total | 1,570,066 | 152,500 | 30,500 | 61,000 | 47,750 | 15,250 |
| <u>Brown:</u> | | | | | | |
| Urban | 14,860 | | | | | |
| Totals by columns | 2,299,809 | 435,920 | 108,250 | 122,530 | 167,495 | 37,646 |

MODOC COUNTY

Acres in Recreation Facilities

| Area Classification | Total Area | Developed Area | Recreation Residences | Commercial Facilities | Camping and Picnic Grounds | Organizational Camps |
|------------------------|------------|----------------|-----------------------|-----------------------|----------------------------|----------------------|
| <u>Blue:</u> | | | | | | |
| R1 | 30,721 | 15,361 | 7,681 | 4,608 | 3,072 | |
| R2 | 61,920 | 24,768 | 12,384 | 7,430 | 4,954 | |
| R3 | 23,520 | 7,056 | 2,822 | 1,411 | 2,470 | 353 |
| R4 | 16,560 | 4,968 | 1,987 | 994 | 1,739 | 248 |
| S1 | | | | | | |
| RA2 | 383,068 | 153,227 | 30,645 | 30,645 | 76,614 | 15,323 |
| H1 | 759 | 114 | | 91 | 23 | |
| H2 | | | | | | |
| R1R | 23,360 | 11,680 | 5,840 | 3,504 | 2,336 | |
| R2R | 8,800 | 3,520 | 1,760 | 1,056 | 704 | |
| R3R | 9,720 | 2,916 | 1,166 | 583 | 1,021 | 146 |
| R4R | 3,360 | 1,008 | 403 | 202 | 353 | 50 |
| L2 | 15,360 | 9,216 | 3,686 | 1,382 | 3,226 | 922 |
| Total | 577,148 | 233,834 | 68,374 | 51,906 | 96,512 | 17,042 |
| <u>Green:</u> | | | | | | |
| S2 | | | | | | |
| S3 | | | | | | |
| S4 | | | | | | |
| RA1 | | | | | | |
| Primitive | 69,240 | | | | | |
| S2 | | | | | | |
| L1 | 320 | 160 | | | 112 | 48 |
| Total | 69,560 | 160 | | | 112 | 48 |
| <u>Brown:</u> | | | | | | |
| RA3 | 1,425,670 | 142,567 | 28,513 | 57,027 | 42,770 | 14,257 |
| Wildlife | 63,420 | | | | | |
| Total | 1,489,090 | 142,567 | 28,513 | 57,027 | 42,770 | 14,257 |
| <u>Red:</u> | | | | | | |
| Urban | 20,900 | | | | | |
| Total Acres by columns | 2,156,698 | 346,561 | 96,887 | 108,933 | 139,394 | 31,347 |

PLUMAS COUNTY

Acres in Recreation Facilities

| Area Classification | Total Area | Developed Area | Recreation Residences | Commercial Facilities | Camping and Picnic Grounds | Organizational Camps |
|------------------------|------------|----------------|-----------------------|-----------------------|----------------------------|----------------------|
| <u>Blue:</u> | | | | | | |
| R1 | 115,680 | 57,840 | 28,920 | 17,352 | 11,568 | |
| R2 | 19,760 | 7,904 | 3,952 | 2,371 | 1,581 | |
| R3 | 12,960 | 3,888 | 1,555 | 778 | 1,361 | 194 |
| R4 | 160 | 48 | 19 | 10 | 17 | 2 |
| S1 | 960 | 288 | 58 | 43 | 144 | 43 |
| RA2 | 890,427 | 356,171 | 71,234 | 71,234 | 178,086 | 35,617 |
| H1 | | | | | | |
| H2 | | | | | | |
| R1R | 68,000 | 34,000 | 17,000 | 10,200 | 6,800 | |
| R2R | | | | | | |
| L2 | 14,890 | 8,934 | 3,574 | 1,340 | 3,127 | 893 |
| Total | 1,122,837 | 469,073 | 126,312 | 103,328 | 202,684 | 36,749 |
| <u>Green:</u> | | | | | | |
| S2 | | | | | | |
| S3 | 480 | 96 | 19 | 14 | 48 | 14 |
| S4 | | | | | | |
| RA1 | 133,670 | 26,734 | | | 16,040 | 10,694 |
| Primitive | 48,180 | | | | | |
| L1 | 3,960 | 1,980 | | | 1,386 | 594 |
| Total | 186,290 | 28,810 | 19 | 14 | 17,474 | 11,302 |
| <u>Brown:</u> | | | | | | |
| RA3 | 43,000 | 4,300 | 860 | 1,720 | 1,290 | 430 |
| Wildlife | | | | | | |
| <u>Red:</u> | | | | | | |
| Urban | 10,560 | | | | | |
| Total acres by Columns | 1,362,687 | 502,183 | 127,191 | 105,062 | 221,448 | 48,481 |

SHASTA COUNTY

Acres in Recreation Facilities

| Area Classification | Total Area | Developed Area | Recreation Residences | Commercial Facilities | Picnic Grounds | Organizational Camps |
|------------------------|------------|----------------|-----------------------|-----------------------|----------------|----------------------|
| <u>Blue:</u> | | | | | | |
| R1 | 113,120 | 56,560 | 28,280 | 16,968 | 11,312 | |
| R2 | 105,060 | 42,024 | 21,012 | 12,607 | 8,405 | |
| R3 | 55,080 | 16,524 | 6,610 | 3,305 | 5,783 | 826 |
| R4 | 41,440 | 12,432 | 4,973 | 2,486 | 4,351 | 622 |
| S1 | 2,560 | 768 | 154 | 115 | 384 | 115 |
| RA2 | 696,350 | 278,540 | 55,708 | 55,708 | 139,270 | 27,854 |
| H1 | 562 | 84 | | 67 | 17 | |
| H2 | | | | | | |
| R1R | 173,420 | 86,710 | 43,355 | 26,013 | 17,342 | |
| R2R | 53,310 | 21,324 | 10,662 | 6,397 | 4,265 | |
| L2 | 3,220 | 1,932 | 773 | 290 | 676 | 193 |
| Total | 1,244,122 | 516,898 | 171,527 | 123,956 | 191,305 | 29,610 |
| <u>Green:</u> | | | | | | |
| S2 | 21,240 | 4,248 | 850 | 637 | 2,124 | 637 |
| S3 | 6,240 | 1,248 | 250 | 187 | 624 | 187 |
| S4 | 8,200 | 1,640 | 328 | 246 | 820 | 246 |
| RA1 | | | | | | |
| Primitive | 61,740 | | | | | |
| L1 | 1,880 | 940 | | | 658 | 282 |
| Total | 99,300 | 8,076 | 1,428 | 1,070 | 4,226 | 1,352 |
| <u>Brown:</u> | | | | | | |
| RA3 | 483,380 | 48,338 | 9,668 | 19,335 | 14,501 | 4,834 |
| Wildlife | | | | | | |
| <u>Red:</u> | | | | | | |
| Urban | 151,930 | | | | | |
| Total acres by columns | 1,978,732 | 573,312 | 182,623 | 144,361 | 210,532 | 35,796 |

SIERRA COUNTY

Acres in Recreation Facilities

| Area Classification | Total Area | Developed Area | Recreation Residences | Commercial Facilities | Camping and Picnic Grounds | Organizational Camps |
|---------------------|------------|----------------|-----------------------|-----------------------|----------------------------|----------------------|
| <u>Blue:</u> | | | | | | |
| R1 | 12,160 | 6,080 | 3,040 | 1,824 | 1,216 | |
| R2 | 22,720 | 9,088 | 4,544 | 2,727 | 1,817 | |
| R3 | 3,120 | 936 | 374 | 187 | 328 | 47 |
| R4 | | | | | | |
| S1 | | | | | | |
| RA2 | 403,560 | 161,424 | 32,285 | 32,285 | 80,713 | 16,142 |
| H1 | | | | | | |
| H2 | | | | | | |
| R1R | 12,800 | 6,400 | 3,200 | 1,920 | 1,280 | |
| R2R | | | | | | |
| L2 | 11,680 | 7,008 | 2,803 | 1,051 | 2,453 | 701 |
| Total | 466,040 | 190,936 | 46,246 | 39,994 | 87,807 | 16,890 |
| <u>Green:</u> | | | | | | |
| S2 | | | | | | |
| S3 | | | | | | |
| S4 | | | | | | |
| RA1 | | | | | | |
| Primitive | | | | | | |
| L1 | | | | | | |
| <u>Brown:</u> | | | | | | |
| RA3 | | | | | | |
| Wildlife | | | | | | |
| <u>Red:</u> | | | | | | |
| Urban | 6,050 | | | | | |
| Totals by columns | 472,090 | 190,936 | 46,246 | 39,994 | 87,807 | 16,890 |

SISKIYOU COUNTY

Acres in Recreation Facilities

| Area Classification | Total Area | Developed Area | Recreation Residences | Commercial Facilities | Camping and Picnic Grounds | Organizational camps |
|---------------------|------------|----------------|-----------------------|-----------------------|----------------------------|----------------------|
| <u>Blue:</u> | | | | | | |
| R1 | 128,640 | 64,320 | 32,160 | 19,296 | 12,864 | |
| R2 | 3,398 | 1,359 | 680 | 408 | 272 | |
| R3 | 49,920 | 14,976 | 5,990 | 2,995 | 5,242 | 749 |
| R4 | 23,923 | 7,177 | 2,871 | 1,435 | 2,512 | 359 |
| S1 | 68,500 | 20,550 | 4,110 | 3,083 | 10,275 | 3,083 |
| RA2 | 276,175 | 110,470 | 22,094 | 22,094 | 55,235 | 11,047 |
| H1 | 514 | 77 | | 62 | 15 | |
| H2 | 34 | 2 | | 2 | | |
| R1R | 125,760 | 62,880 | 31,440 | 18,864 | 12,576 | |
| R2R | | | | | | |
| L2 | 24,446 | 14,668 | 5,867 | 2,200 | 5,134 | 1,467 |
| Total | 701,310 | 296,479 | 105,212 | 70,439 | 104,125 | 16,705 |
| <u>Green:</u> | | | | | | |
| S2 | 81,031 | 16,206 | 3,241 | 2,431 | 8,103 | 2,431 |
| S3 | 62,640 | 12,528 | 2,506 | 1,879 | 6,264 | 1,879 |
| S4 | 79,720 | 15,944 | 3,189 | 2,392 | 7,972 | 2,392 |
| RA1 | 30,609 | 6,122 | | | 3,673 | 2,449 |
| Primitive | 227,762 | | | | | |
| L1 | 3,216 | 1,608 | | | 1,126 | 482 |
| Total | 484,978 | 52,404 | 8,936 | 6,702 | 27,138 | 9,633 |
| <u>Brown:</u> | | | | | | |
| RA3 | 778,808 | 77,880 | 15,576 | 31,152 | 23,264 | 7,788 |
| Wildlife | 65,805 | | | | | |
| Total | 844,613 | 77,880 | 15,576 | 31,152 | 23,264 | 7,788 |
| <u>Red:</u> | | | | | | |
| Urban | 113,900 | | | | | |
| Totals by columns | 2,144,801 | 426,763 | 129,724 | 108,293 | 154,527 | 34,126 |

SUTTER COUNTY

Acres in Recreation Facilities

| Area Classification | Total Area | Developed Area | Recreation Residences | Commercial Facilities | Camping and Picnic Grounds | Organizational Camps |
|---------------------|------------|----------------|-----------------------|-----------------------|----------------------------|----------------------|
| <u>Blue:</u> | | | | | | |
| R1 | 60,910 | 30,455 | 15,228 | 9,137 | 6,091 | |
| R2 | 2,720 | 1,088 | 544 | 326 | 218 | |
| R3 | | | | | | |
| R4 | | | | | | |
| S1 | | | | | | |
| RA2 | | | | | | |
| H1 | 243 | 36 | | 29 | 7 | |
| H2 | | | | | | |
| R1R | | | | | | |
| R2R | | | | | | |
| R3R | | | | | | |
| R4R | | | | | | |
| L2 | | | | | | |
| Total | 63,873 | 31,579 | 15,772 | 9,492 | 6,316 | |
| <u>Green:</u> | | | | | | |
| S2 | | | | | | |
| S3 | | | | | | |
| S4 | | | | | | |
| RA1 | | | | | | |
| Primitive | | | | | | |
| L1 | | | | | | |
| <u>Brown:</u> | | | | | | |
| RA3 | | | | | | |
| Wildlife | 47,250 | | | | | |
| <u>Red:</u> | | | | | | |
| Urban | 22,710 | | | | | |
| Totals by columns | 133,833 | 31,579 | 15,772 | 9,492 | 6,316 | |

Table 2-1

TEHAMA COUNTY

Acres in Recreation Facilities

| Area Classification | Total Area | Developed Area | Recreation Residences | Commercial Facilities | Camping and Picnic Grounds | Organizational Camps |
|---------------------|------------|----------------|-----------------------|-----------------------|----------------------------|----------------------|
| <u>Blue:</u> | | | | | | |
| R1 | 125,440 | 62,720 | 31,360 | 18,816 | 12,544 | |
| R2 | 69,120 | 27,648 | 13,824 | 8,294 | 5,530 | |
| R3 | 61,120 | 18,336 | 7,334 | 3,667 | 6,418 | 917 |
| R4 | 36,960 | 11,088 | 4,435 | 2,218 | 3,881 | 554 |
| S1 | | | | | | |
| RA2 | 625,280 | 250,112 | 50,022 | 50,022 | 125,056 | 25,011 |
| H1 | 409 | 61 | | 49 | 12 | |
| H2 | | | | | | |
| R1R | 99,680 | 49,840 | 24,920 | 14,952 | 9,968 | |
| R2R | | | | | | |
| R3R | | | | | | |
| R4R | | | | | | |
| L2 | 7,200 | 4,320 | 1,728 | 648 | 1,512 | 432 |
| Total | 1,025,209 | 424,125 | 133,623 | 98,666 | 164,921 | 26,914 |
| <u>Green:</u> | | | | | | |
| S2 | | | | | | |
| S3 | | | | | | |
| S4 | | | | | | |
| RA1 | | | | | | |
| Primitive | 131,370 | | | | | |
| L1 | | | | | | |
| Total | 131,370 | | | | | |
| <u>Brown:</u> | | | | | | |
| RA3 | 466,160 | 46,616 | 9,323 | 18,646 | 13,985 | 4,662 |
| Wildlife | | | | | | |
| Total | 466,160 | 46,616 | 9,323 | 18,646 | 13,985 | 4,662 |
| <u>Red:</u> | | | | | | |
| Urban | 42,270 | | | | | |
| Totals by columns | 1,665,009 | 470,741, | 142,946 | 117,312 | 178,906 | 31,576 |

TRINITY COUNTY
Acres in Recreation Facilities

| Area Classification | Total Area | Developed Area | Recreation Residences | Commercial Facilities | Camping and Picnic Grounds | Organizational Camps |
|---------------------|------------|----------------|-----------------------|-----------------------|----------------------------|----------------------|
| <u>Blue:</u> | | | | | | |
| R1 | 104,960 | 52,480 | 26,240 | 15,744 | 10,496 | |
| R2 | 49,920 | 19,968 | 9,984 | 5,991 | 3,994 | |
| R3 | 15,600 | 4,680 | 1,872 | 938 | 1,639 | 234 |
| R4 | 16,880 | 5,064 | 2,026 | 1,011 | 1,773 | 252 |
| S1 | 1,920 | 512 | 103 | 77 | 256 | 77 |
| RA2 | 344,040 | 137,616 | 27,523 | 27,523 | 68,808 | 13,761 |
| H1 | | | | | | |
| H2 | | | | | | |
| R1R | 120,000 | 60,000 | 30,000 | 18,000 | 12,000 | |
| R2R | 24,320 | 9,728 | 4,864 | 2,918 | 1,946 | |
| L2 | 10,980 | 6,588 | 2,635 | 988 | 2,306 | 659 |
| Total | 688,620 | 296,636 | 105,247 | 73,190 | 103,218 | 14,983 |
| <u>Green:</u> | | | | | | |
| S2 | 36,360 | 7,272 | 1,454 | 1,091 | 3,636 | 1,091 |
| S3 | 7,520 | 1,506 | 300 | 227 | 752 | 227 |
| S4 | 36,700 | 7,340 | 1,468 | 1,101 | 3,670 | 1,101 |
| RA1 | | | | | | |
| Primitive | 322,340 | | | | | |
| | 402,920 | 16,118 | 3,222 | 2,419 | 8,058 | 2,419 |
| <u>Brown:</u> | | | | | | |
| RA3 | | | | | | |
| Wildlife | | | | | | |
| <u>Red:</u> | | | | | | |
| Urban | 19,940 | | | | | |
| Totals by columns | 1,111,480 | 312,754 | 108,469 | 75,609 | 111,276 | 17,402 |

Table 2-n

YOLO COUNTY

Acres in Recreation Facilities

| Area Classification | Total Area | Developed Area | Recreation Residences | Commercial Facilities | Camping and Picnic Grounds | Organizational Camps |
|---------------------|------------|----------------|-----------------------|-----------------------|----------------------------|----------------------|
| <u>Blue:</u> | | | | | | |
| R1 | 78,400 | 39,200 | 19,600 | 11,760 | 7,840 | |
| R2 | 22,880 | 9,152 | 4,576 | 2,745 | 1,831 | |
| R3 | 4,920 | 1,476 | 591 | 295 | 516 | 74 |
| R4 | 1,680 | 504 | 201 | 101 | 177 | 25 |
| S1 | | | | | | |
| RA2 | 36,960 | 14,784 | 2,957 | 2,957 | 7,392 | 1,479 |
| H1 | 238 | 36 | | 29 | 7 | |
| R1R | 13,440 | 6,720 | 3,360 | 2,016 | 1,344 | |
| R2R | | | | | | |
| L2 | | | | | | |
| Total | 158,438 | 72,142 | 31,285 | 19,903 | 19,107 | 1,578 |
| <u>Green:</u> | | | | | | |
| S2 | | | | | | |
| S3 | | | | | | |
| S4 | | | | | | |
| RA1 | | | | | | |
| Primitive | | | | | | |
| <u>Brown:</u> | | | | | | |
| RA3 | 52,970 | 5,297 | 1,059 | 2,119 | 1,589 | 530 |
| Wildlife | 40,750 | | | | | |
| Total | 93,720 | 5,297 | 1,059 | 2,119 | 1,589 | 530 |
| <u>Red:</u> | | | | | | |
| Urban | 56,460 | | | | | |
| Totals by columns | 308,618 | 77,439 | 32,344 | 22,022 | 20,696 | 2,108 |

YUBA COUNTY

Acres in Recreation Facilities

| Area Classification | Total Area | Developed Area | Residences | Commercial Facilities | Camping and Picnic Grounds | Camps |
|------------------------|---------------|-------------------|------------|--------------------------|----------------------------------|-------|
| <u>Blue:</u> | | | | | | |
| R1 | 56,320 | 28,160 | 14,080 | 8,448 | 5,632 | |
| R2 | 20,800 | 8,320 | 4,160 | 2,495 | 1,665 | |
| R3 | 960 | 288 | 115 | 58 | 101 | 14 |
| R4 | 640 | 192 | 77 | 38 | 67 | 10 |
| S1 | | | | | | |
| RA2 | 117,550 | 47,020 | 9,405 | 9,405 | 23,508 | 4,702 |
| H1 | 78 | 12 | | 10 | 2 | |
| H2 | | | | | | |
| R1R | 44,320 | 22,160 | 11,080 | 6,645 | 4,435 | |
| R2R | | | | | | |
| L2 | 640 | 384 | 154 | 58 | 134 | 38 |
| Total | 241,308 | 106,536 | 39,071 | 27,157 | 35,544 | 4,764 |
| <u>Green:</u> | | | | | | |
| S2 | | | | | | |
| S3 | | | | | | |
| S4 | | | | | | |
| RA1 | | | | | | |
| Primitive | | | | | | |
| <u>Brown:</u> | | | | | | |
| RA3 | 8,000 | 800 | 160 | 320 | 240 | 80 |
| Wildlife | 32,420 | | | | | |
| Total | 40,420 | 800 | 160 | 320 | 240 | 80 |
| <u>Red:</u> | | | | | | |
| Urban | 68,280 | | | | | |
| Totals by columns | 350,008 | 107,336 | 39,231 | 27,477 | 35,784 | 4,844 |

| | Tehama | Trinity | Yolo | Yuba | Total for 15 Counties |
|-----|------------|------------|------------|------------|--------------------------|
| 772 | 142,946 | 108,469 | 32,344 | 39,231 | 1,221,381 |
| 772 | 102,518 | 88,802 | 32,342 | 32,777 | 863,673 |
| .0 | 0.72 | 0.82 | 1.0 | 0.84 | 0.71 |
| 772 | 81,873 | 78,311 | 28,328 | 29,512 | 689,408 |
| | 864 | 1,317 | | 77 | 13,217 |
| | 19,781 | 9,174 | 4,014 | 3,188 | 177,749 |
| 960 | 18,453,240 | 15,984,360 | 5,821,560 | 5,899,860 | 155,461,140 |
| 492 | 117,312 | 75,609 | 22,022 | 27,477 | 1,024,439 |
| 632 | 7,819 | 5,038 | 1,467 | 1,830 | 68,279 |
| .07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| 630 | 3,196 | 3,139 | 1,127 | 1,178 | 27,424 |
| | 43 | 65 | | 3 | 656 |
| | 4,577 | 1,834 | 338 | 648 | 40,166 |
| 2 | 3 | | 2 | 1 | 33 |
| 520 | 2,814,840 | 1,813,680 | 528,120 | 658,800 | 24,580,440 |
| 316 | 178,906 | 111,276 | 20,696 | 35,783 | 1,561,956 |
| 518 | 123,786 | 104,413 | 26,409 | 31,776 | 1,095,206 |
| .0 | 0.69 | 0.94 | 1.3 | 0.89 | 0.70 |
| 518 | 76,682 | 80,324 | 23,416 | 23,792 | 696,584 |
| | 756 | 1,153 | | 67 | 11,543 |
| | 46,347 | 22,936 | 2,993 | 7,917 | 6,570 |
| | 1 | | | | 378,719 |
| 320 | 29,708,640 | 25,059,120 | 6,338,160 | 7,626,240 | 1,780 |
| | | | | | 5 |
| | 31,576 | 17,402 | 2,108 | 4,844 | 297,934 |
| | 777 | 434 | 52 | 119 | 7,442 |
| | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| | 36 | 74 | 2 | | 611 |
| | | 16 | | | 149 |
| | 741 | 344 | 50 | 119 | 328 |
| | 2,097,900 | 1,171,800 | 140,400 | 321,300 | 6,298 |
| | | | | | 56 |
| 00 | 53,074,620 | 44,028,960 | 12,828,240 | 14,506,200 | 20,093,400 |
| | | | | | 462,984,420 |
| er | Tehama | Trinity | Yolo | Yuba | Total |
| | 24,920 | 34,864 | 3,360 | 11,080 | |
| | 24,920 | 34,864 | 3,360 | 11,080 | |
| | 4,485,600 | 6,275,520 | 604,800 | 1,994,400 | 41,340,060 |
| | 14,952 | 20,918 | 2,016 | 6,645 | |
| | 997 | 1,395 | 134 | 443 | |
| | 358,920 | 502,200 | 48,240 | 159,480 | 3,303,360 |
| | 9,968 | 13,946 | 1,344 | 4,435 | |
| | 19,936 | 27,892 | 2,688 | 8,870 | |
| | 4,784,640 | 6,694,080 | 645,120 | 2,128,800 | 44,662,560 |
| - | - | - | - | - | 21,600 |
| | 9,629,160 | 13,471,800 | 1,298,160 | 4,282,680 | 89,327,580 |

YUBA COUNTY

Acres in Recreation Facilities

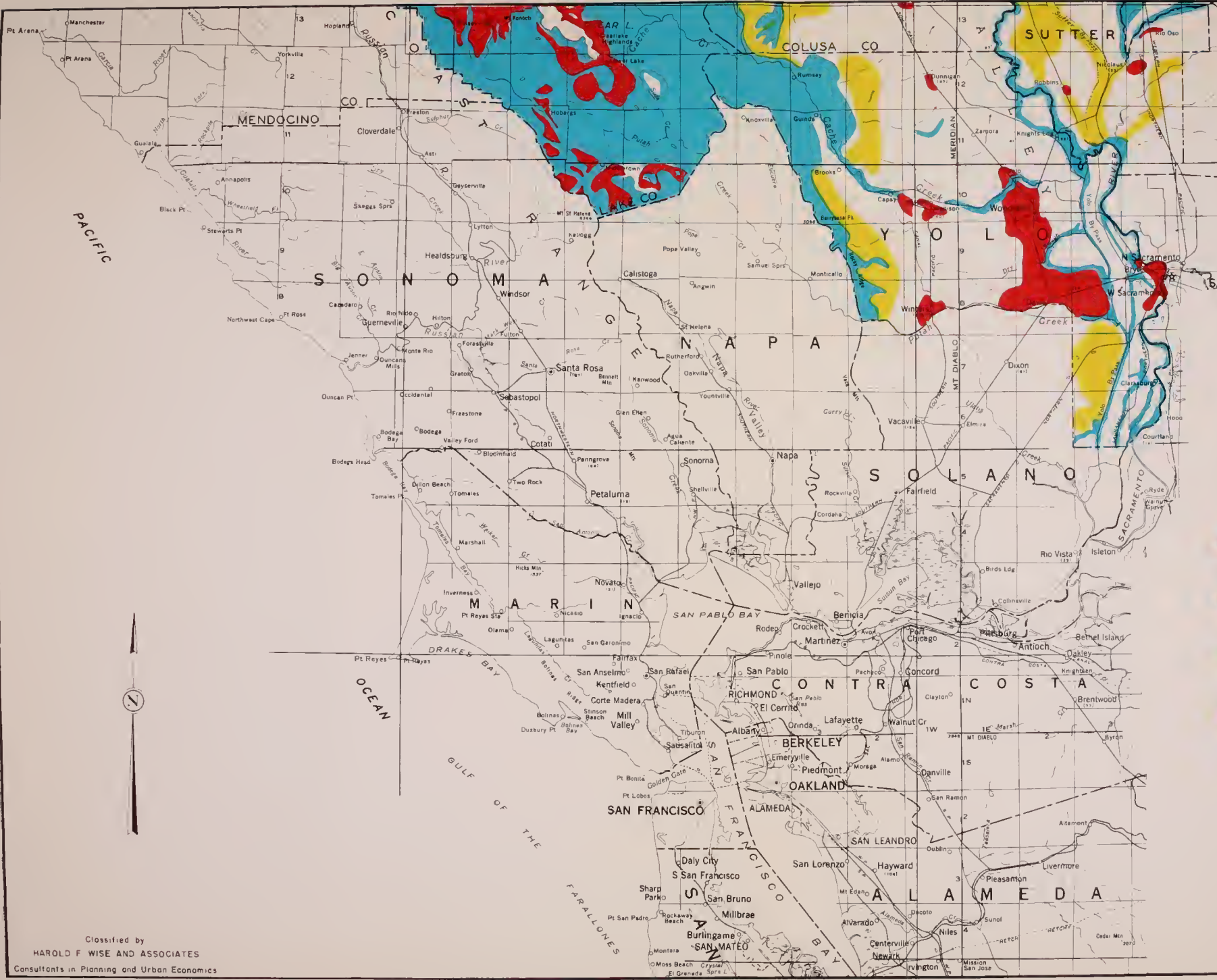
| Area Classification | Total Area | Developed Area | Residences | Commercial Facilities | Camping and Picnic Grounds | Camps |
|------------------------|---------------|-------------------|------------|--------------------------|----------------------------------|-------|
| <u>Blue:</u> | | | | | | |
| R1 | 56,320 | 28,160 | 14,080 | 8,448 | 5,632 | |
| R2 | 20,800 | 8,320 | 4,160 | 2,495 | 1,665 | |
| R3 | 960 | 288 | 115 | 58 | 101 | 14 |
| R4 | 640 | 192 | 77 | 38 | 67 | 10 |
| S1 | | | | | | |
| RA2 | 117,550 | 47,020 | 9,405 | 9,405 | 23,508 | 4,702 |
| H1 | 78 | 12 | | 10 | 2 | |
| H2 | | | | | | |
| R1R | 44,320 | 22,160 | 11,080 | 6,645 | 4,435 | |
| R2R | | | | | | |
| L2 | 640 | 384 | 154 | 58 | 134 | 38 |
| Total | 241,308 | 106,536 | 39,071 | 27,157 | 35,544 | 4,764 |
| <u>Green:</u> | | | | | | |
| S2 | | | | | | |
| S3 | | | | | | |
| S4 | | | | | | |
| RA1 | | | | | | |
| Primitive | | | | | | |
| <u>Brown:</u> | | | | | | |
| RA3 | 8,000 | 800 | 160 | 320 | 240 | 80 |
| Wildlife | 32,420 | | | | | |
| Total | 40,420 | 800 | 160 | 320 | 240 | 80 |
| <u>Red:</u> | | | | | | |
| Urban | 68,280 | | | | | |
| Totals by columns | 350,008 | 107,336 | 39,231 | 27,477 | 35,784 | 4,844 |

Table 3
ESTIMATED USER-DAYS PER SEASON AT CAPACITY USE OF
POTENTIAL RECREATION AREAS IN 15 NORTHEASTERN COUNTIES

| Recreation Area | Butte | Colusa | Glenn | Lake | Lassen | Modoc | Plumas | Shasta | Sierra | Siskiyou | Sutter | Tehama | Trinity | Yala | Yuba | Total for 15 Counties |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|-------------------|-------------------|-------------------|-------------------|-----------------------|
| Permanent and Summer Residences | | | | | | | | | | | | | | | | |
| Total net developable acres | 72,756 | 27,257 | 26,582 | 65,103 | 108,250 | 96,887 | 127,191 | 182,623 | 46,246 | 129,724 | 15,772 | 142,946 | 108,469 | 32,344 | 39,231 | 1,221,381 |
| Total units | 61,807 | 21,802 | 19,977 | 41,848 | 59,834 | 55,605 | 76,941 | 128,652 | 23,320 | 101,676 | 15,772 | 102,518 | 88,802 | 32,342 | 32,777 | 863,673 |
| Average units per acre | 0.85 | 0.80 | 0.75 | 0.64 | 0.55 | 0.57 | 0.60 | 0.70 | 0.50 | 0.78 | 1.0 | 0.72 | 0.82 | 1.0 | 0.84 | 0.71 |
| R&S 1 unit per acre | 55,723 | 19,075 | 16,650 | 30,221 | 34,958 | 34,043 | 51,123 | 116,474 | 11,158 | 86,187 | 15,772 | 81,873 | 78,311 | 28,328 | 29,512 | 689,408 |
| L2 1 unit per 2 acres | 1,220 | | 51 | | 1,338 | 1,843 | 1,787 | 386 | 1,401 | 2,933 | | 864 | 1,317 | | 77 | 13,217 |
| RA 2-3 1 unit per 3 acres | 4,864 | 2,727 | 19,977 | 11,627 | 23,538 | 19,719 | 24,031 | 11,792 | 10,761 | 12,556 | | 19,781 | 9,174 | 4,014 | 3,188 | 177,749 |
| Capacity users per season (4 persons @ 45 days = 180) | 11,125,260 | 3,924,360 | 3,595,860 | 7,532,640 | 10,770,120 | 10,008,900 | 13,849,380 | 23,157,360 | 4,197,600 | 18,301,680 | 2,838,960 | 18,453,240 | 15,984,360 | 5,821,560 | 5,899,860 | 155,461,140 |
| Commercial: Resorts, Hotels, etc. | | | | | | | | | | | | | | | | |
| Total net developable acres | 48,709 | 21,473 | 20,254 | 52,918 | 122,530 | 108,933 | 105,062 | 144,361 | 39,994 | 108,293 | 9,492 | 117,312 | 75,609 | 22,022 | 27,477 | 1,024,439 |
| Total units | 3,246 | 1,430 | 1,348 | 3,533 | 8,162 | 7,261 | 7,003 | 9,622 | 2,671 | 7,217 | 632 | 7,819 | 5,038 | 1,467 | 1,830 | 68,279 |
| Average units per acre | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| R&S 1 unit per 15 acres | 2,211 | 768 | 691 | 1,202 | 1,354 | 1,319 | 2,051 | 4,597 | 443 | 3,518 | 630 | 3,196 | 3,139 | 1,127 | 1,178 | 27,424 |
| L2 1 unit per 15 acres | 61 | | 1 | | 67 | 92 | 89 | 19 | 70 | 146 | | 43 | 65 | | 3 | 656 |
| RA 2-3 1 unit per 15 acres | 972 | 660 | 655 | 2,325 | 6,741 | 5,844 | 4,863 | 5,002 | 2,158 | 3,549 | | 4,577 | 1,834 | 338 | 648 | 40,166 |
| Highways 1 unit per 15 acres | 2 | 2 | 1 | | 6 | 6 | | 4 | | 4 | 2 | 3 | | 2 | 1 | 33 |
| Capacity users per season (4 persons @ 90 days = 360) | 1,168,560 | 514,800 | 485,280 | 1,271,880 | 2,938,320 | 2,613,960 | 2,521,080 | 3,463,920 | 961,560 | 2,598,120 | 227,520 | 2,814,840 | 1,813,680 | 528,120 | 658,800 | 24,580,440 |
| Camping: Picnic Areas, etc. | | | | | | | | | | | | | | | | |
| Total net developable acres | 62,182 | 29,232 | 36,561 | 99,801 | 167,495 | 139,394 | 221,448 | 210,532 | 87,807 | 154,527 | 6,316 | 178,906 | 111,276 | 20,696 | 35,783 | 1,561,956 |
| Total units | 50,618 | 27,049 | 32,020 | 54,258 | 84,775 | 74,743 | 110,201 | 162,635 | 37,412 | 162,493 | 12,618 | 123,786 | 104,413 | 26,409 | 31,776 | 1,095,206 |
| Average units per acre | 0.81 | 0.93 | 0.88 | 0.54 | 0.51 | 0.54 | 0.50 | 0.77 | 0.43 | 1.1 | 2.0 | 0.69 | 0.94 | 1.3 | 0.89 | 0.70 |
| R&S 2 units per acre | 47,118 | 20,770 | 23,784 | 25,190 | 34,292 | 33,298 | 43,038 | 110,820 | 9,282 | 132,160 | 12,618 | 76,682 | 80,324 | 23,416 | 23,792 | 696,584 |
| L2 1 unit per 2 acres | 1,068 | | 45 | | 1,147 | 1,613 | 1,563 | 338 | 1,226 | 2,567 | | 756 | 1,153 | | 67 | 11,543 |
| RA 1 1 unit per 3 acres | | | | | | | 5,346 | | | 1,224 | | | | | | 6,570 |
| RA 2-3 1 unit per 3 acres | 2,432 | 6,242 | 8,191 | 29,068 | 48,680 | 39,794 | 59,792 | 51,257 | 26,904 | 26,166 | | 46,347 | 22,936 | 2,993 | 7,917 | 378,719 |
| L1 1 unit per 3 acres | | 37 | | | 655 | 37 | 462 | 219 | | 375 | | | | | | 1,780 |
| Highways 1 unit per 15 acres | | | | | 1 | 1 | | 1 | | 1 | | 1 | | | | 5 |
| Capacity users per season (4 persons @ 60 days = 240) | 12,148,320 | 6,491,760 | 7,684,800 | 13,021,920 | 20,346,000 | 17,938,320 | 26,448,240 | 39,032,400 | 8,978,880 | 38,998,320 | 3,028,320 | 29,708,640 | 25,059,120 | 6,338,160 | 7,626,240 | 262,849,440 |
| Organizational Camps, etc. | | | | | | | | | | | | | | | | |
| Total net developable acres | 8,241 | 5,085 | 6,808 | 17,584 | 37,646 | 31,347 | 48,481 | 35,796 | 16,890 | 34,126 | | 31,576 | 17,402 | 2,108 | 4,844 | 297,934 |
| Total units | 205 | 126 | 168 | 439 | 939 | 790 | 1,215 | 906 | 421 | 851 | | 777 | 434 | 52 | 119 | 7,442 |
| Average units per acre | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 | | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| R&S 1 unit per 40 acres | 8 | 23 | 46 | 3 | 20 | 37 | 11 | 78 | 1 | 272 | | 36 | 74 | 2 | | 611 |
| L2 1 unit per 40 acres | 15 | | | | 16 | 23 | 22 | 4 | 17 | 36 | | 16 | | | | 149 |
| RA 1 1 unit per 40 acres | | | | | | | 267 | | | 61 | | | | | | 328 |
| RA 2-3 1 unit per 40 acres | 182 | 102 | 122 | 436 | 882 | 729 | 901 | 817 | 403 | 470 | | 741 | 344 | 50 | 119 | 6,298 |
| L1 1 unit per 40 acres | | 1 | | | 21 | 1 | 14 | 7 | | 12 | | | | | | 56 |
| Capacity users per season (30 persons @ 90 days = 2,700) | 553,500 | 340,200 | 453,600 | 1,185,300 | 2,535,300 | 2,133,000 | 3,280,500 | 2,446,200 | 1,136,700 | 2,297,700 | | 2,097,900 | 1,171,800 | 140,400 | 321,300 | 20,093,400 |
| Total user-days | 24,995,640 | 11,271,120 | 12,219,540 | 23,011,740 | 36,589,740 | 32,694,180 | 46,099,200 | 68,099,880 | 15,274,740 | 62,195,820 | 6,094,800 | 53,074,620 | 44,028,960 | 12,828,240 | 14,506,200 | 462,984,420 |

Table 4
ESTIMATED ANNUAL USER-DAYS AT RESERVOIR FACILITIES AT CAPACITY USE

| Type of Facility | Butte | Colusa | Glenn | Lake | Lassen | Modoc | Plumas | Shasta | Sierra | Siskiyou | Sutter | Tehama | Trinity | Yala | Yuba | Total |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|------------------|-------------------|--------|------------------|-------------------|------------------|------------------|-------------------|
| Recreation residences | | | | | | | | | | | | | | | | |
| Developable acres | 16,505 | 3,840 | 6,040 | 2,819 | 11,413 | 9,169 | 17,000 | 54,017 | 3,200 | 31,440 | - | 24,920 | 34,864 | 3,360 | 11,080 | |
| Units @ 1 per acre | 16,505 | 3,840 | 6,040 | 2,819 | 11,413 | 9,169 | 17,000 | 54,017 | 3,200 | 31,440 | - | 24,920 | 34,864 | 3,360 | 11,080 | |
| User-days @ 180/unit | 2,970,900 | 691,200 | 1,087,200 | 507,420 | 2,054,340 | 1,650,420 | 3,060,000 | 9,723,060 | 576,000 | 5,659,200 | - | 4,485,600 | 6,275,520 | 604,800 | 1,994,400 | 41,340,060 |
| Commercial: resorts, hotels, etc. | | | | | | | | | | | | | | | | |
| Developable acres | 9,904 | 2,304 | 3,624 | 1,691 | 6,757 | 5,345 | 10,200 | 32,410 | 1,920 | 18,864 | - | 14,952 | 20,918 | 2,016 | 6,645 | |
| Units @ 1 per 15 acres | 660 | 154 | 242 | 113 | 450 | 356 | 680 | 2,166 | 128 | 1,258 | - | 997 | 1,395 | 134 | 443 | |
| User-days @ 360/unit | 237,600 | 55,440 | 87,120 | 40,680 | 162,000 | 128,160 | 244,800 | 779,760 | 46,080 | 452,880 | - | 358,920 | 502,200 | 48,240 | 159,480 | 3,303,360 |
| Campgrounds, picnic areas | | | | | | | | | | | | | | | | |
| Developable acres | 6,603 | 1,536 | 2,416 | 1,128 | 4,994 | 4,414 | 6,800 | 21,607 | 1,280 | 12,576 | - | 9,968 | 13,946 | 1,344 | 4,435 | |
| Units @ 2 per acre | 13,206 | 3,072 | 4,832 | 2,256 | 9,988 | 8,828 | 13,600 | 43,214 | 2,560 | 25,152 | - | 19,936 | 27,892 | 2,688 | 8,870 | |
| User-days @ 240/unit | 3,169,440 | 737,280 | 1,159,680 | 541,440 | 2,397,120 | 2,118,720 | 3,264,000 | 10,371,360 | 614,400 | 6,036,480 | - | 4,784,640 | 6,694,080 | 645,120 | 2,128,800 | 44,662,560 |
| Organizational camps | | | | | | | | | | | | | | | | |
| Developable acres | - | - | - | - | 113 | 196 | - | - | - | - | - | - | - | - | - | |
| Units @ 1 per 40 acres | - | - | - | - | 3 | 5 | - | - | - | - | - | - | - | - | - | |
| User-days @ 2700/unit | - | - | - | - | 8,100 | 13,500 | - | - | - | - | - | - | - | - | - | 21,600 |
| Total | 6,377,940 | 1,483,920 | 2,334,000 | 1,089,540 | 4,621,560 | 3,910,800 | 6,568,800 | 20,874,180 | 1,236,480 | 12,148,560 | | 9,629,160 | 13,471,800 | 1,298,160 | 4,282,680 | 89,327,580 |



LEGEND

URBAN AND SUBURBAN: URBAN CENTERS, LANDS ADJACENT TO PRESENT URBAN CENTERS, AND AREAS LIKELY TO BECOME URBAN AND SUBURBAN IN CHARACTER. NO POPULATION DENSITY IS SPECIFIED AND IN SOME CASES WOULD INCLUDE WIDELY SCATTERED RESIDENCES.

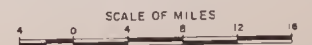
HIGH INTENSITY RECREATION: AREAS OF PRIME RECREATION POTENTIAL THAT ARE ACCESSIBLE BY MOTOR VEHICLE DURING THE ENTIRE VACATION SEASON. MOST AREAS SUBJECT TO DEVELOPMENT FOR COMMERCIAL RESORTS, PRIVATE SUMMER HOMES, PRIVATE AND PUBLIC CAMPING AND PICNIC GROUNDS WOULD BE IN THIS CLASSIFICATION.

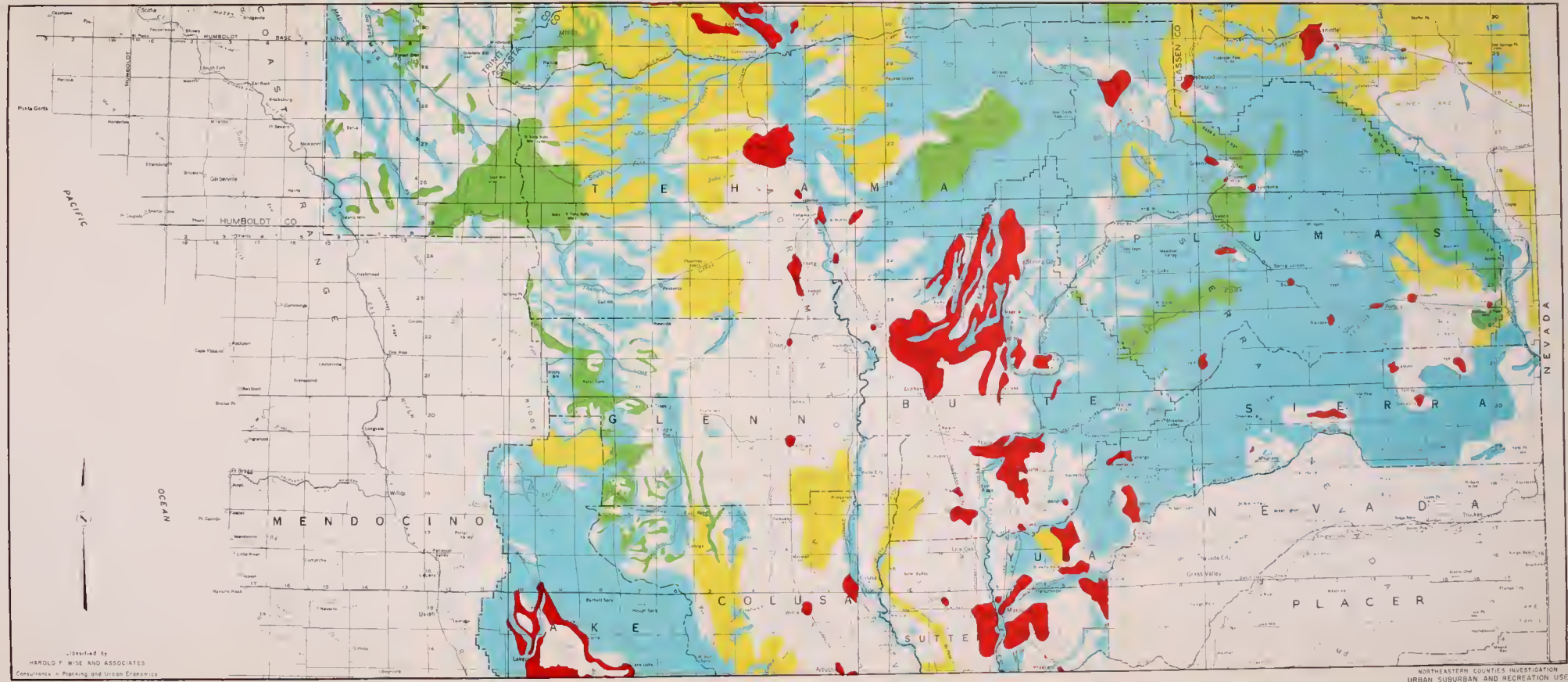
MEDIUM INTENSITY RECREATION: AREAS OF PRIME RECREATION POTENTIAL NOT READILY ACCESSIBLE BY MOTOR VEHICLE. THIS INCLUDES PRIMITIVE AREAS BUT WOULD ALSO INCLUDE SOME AREAS ACCESSIBLE BY JEEP. TO A LIMITED EXTENT THIS AREA WOULD BE DEVELOPED FOR RESORTS, SUMMER HOMES AND CAMP GROUNDS.

LOW INTENSITY RECREATION AREAS: ACCESSIBLE AREAS HAVING LIMITED RECREATION POTENTIAL SUCH AS THE WIDE JUNIPER-SAGE PLATEAU OF THE LAHONTAN BASIN, THE DRY RANGES OF THE EASTERN CASCADE SLOPE, AND THE MIDDLE ALTITUDE MESQUITE AND MANZANITA FOREST. WILDLIFE AREAS ARE INCLUDED HEREIN. PRIMARY RECREATION USE WOULD BE FOR HUNTING AND FISHING.

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF RESOURCES PLANNING
NORTHEASTERN COUNTIES INVESTIGATION

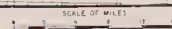
**CLASSIFICATION OF LANDS FOR
URBAN, SUBURBAN, AND RECREATION USE
1957**





- LEGEND
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LEGEND

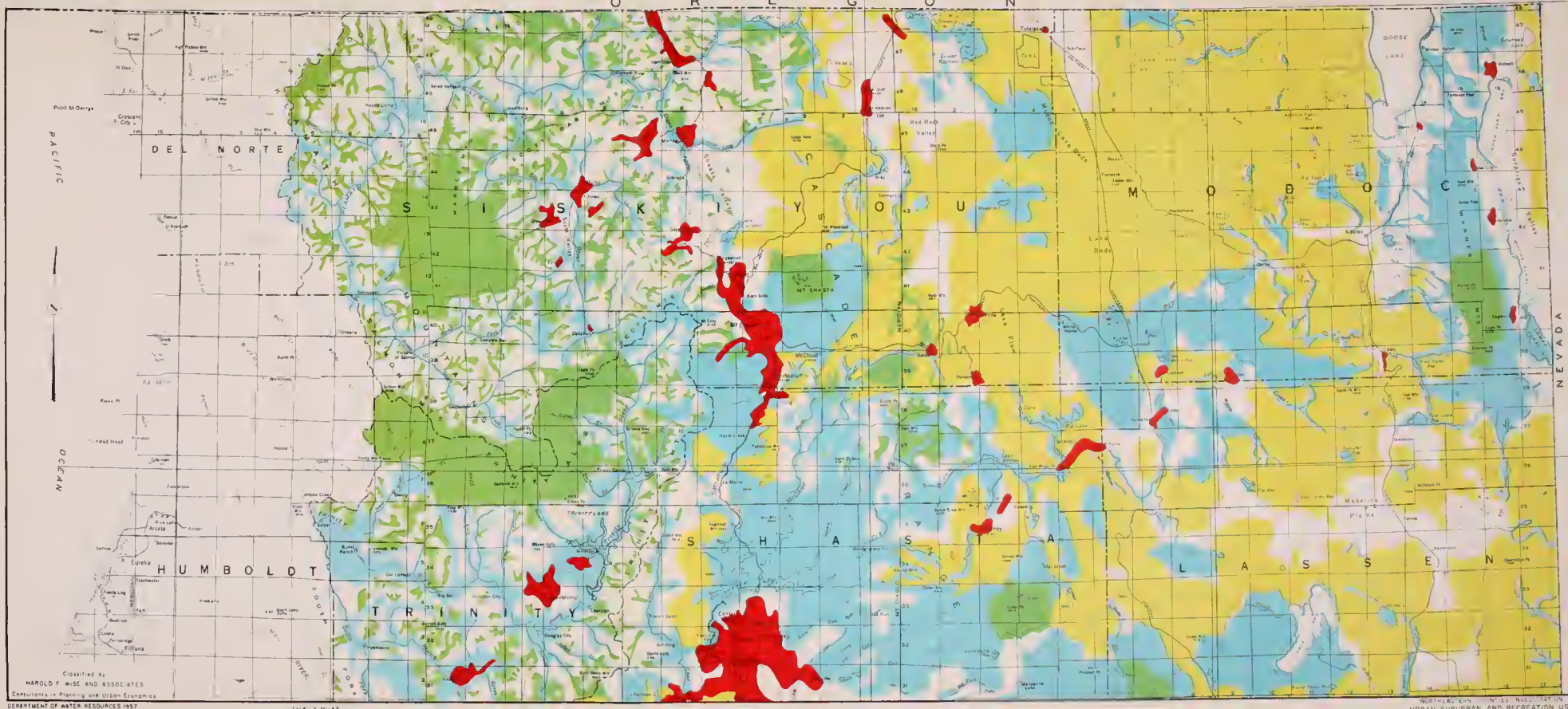
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URBAN SUBURBAN AND RECREATION USE



